

DRAFTING INFORMATION

The principal authors of this document are Jay J. Pardee, Propulsion Section, Engineering and Manufacturing Branch, and George L. Thompson, Office of the Regional Counsel, New England Region.

THE PROPOSED AMENDMENT

Accordingly, the Federal Aviation Administration proposes to amend § 39.13 of Part 39 of the Federal Aviation Regulations (14 CFR 39.13) by adding the following new Airworthiness Directive:

Pratt and Whitney Aircraft: Applies to Pratt and Whitney Aircraft JT8D-9, -9A, -11, -15, -17, and -17R turbofan engine models.

Compliance required as indicated, unless already accomplished.

To detect cracks in front compressor front hubs, P/Ns 594301, 791801, 640601, 743301, 750101, and serial numbered P/N 749801 except those listed in Pratt and Whitney Aircraft Alert Service Bulletin No. 4841, Revision 1, dated March 15, 1978, or later FAA approved revision, which could result in fracture of the retention lugs and release of first stage fan blades, accomplish the following:

Inspect front compressor front hubs for cracks in the blade slots in accordance with Pratt and Whitney Aircraft Alert Service Bulletin No. 4841, Revision 1, dated March 15, 1978, or later FAA approved revision, or equivalent means approved by the Chief, Engineering and Manufacturing Branch, New England Region, prior to the accumulation of 13,000 cycles, since new, or within 2,000 cycles time in service after the effective date of this AD, whichever is later. Disks inspected prior to 13,000 cycles must be reinspected prior to accumulating an additional 6,000 cycles, or upon reaching 13,000 cycles, whichever is later.

Inspect thereafter at intervals not to exceed 6,000 cycles in service since last inspection. Remove cracked front compressor front hubs before further flight.

Upon request of the operator, an FAA maintenance inspector, subject to prior approval of the Chief, Engineering and Manufacturing Branch, FAA New England Region, may adjust the inspection intervals specified in this AD to permit compliance at an established inspection period of the operator if the request contains substantiating data to justify the increase for that operator.

The manufacturer's alert service bulletin identified and described in this directive is incorporated herein and made a part hereof pursuant to 5 U.S.C. 552(a)(1). All persons affected by this directive who have not already received this document from the manufacturer may obtain copies upon request to Pratt and Whitney Aircraft, Division of United Technologies Corp., 400 Main Street, East Hartford, Conn. 06108. This document may also be examined at Federal Aviation Administration, New England Region, 12 New England Executive Park, Burlington, Mass. 01803, and at FAA Headquarters, 800 Independence Avenue SW., Washington, D.C. 20591. A historical file on this AD which includes the incorporated material in full is maintained by the FAA at its headquarters in Washington, D.C., and at New England Region.

(Secs. 313(a), 601, 603, Federal Aviation Act of 1958, as amended (49 U.S.C. 1354(a), 1421, 1423); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)); 14 CFR 11.85.)

Issued in Burlington, Mass., on May 9, 1978.

NOTE.—The incorporation by reference provisions of this document was approved by the Director of the Federal Register on June 19, 1967.

ROBERT E. WHITTINGTON,
Director,
New England Region.

[FR Doc. 78-13479 Filed 5-17-78; 8:45 am]

[4910-13]

[14 CFR Part 71]

[Airspace Docket No. 78-GL-8]

TRANSITION AREA

Proposed Designation

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The nature of this Federal action is to designate controlled airspace near Kenton, Ohio to accommodate a new (VOR-A) instrument approach procedure into the Hardin County Airport, Kenton, Ohio, established on the basis of a request from the Hardin County Airport officials to provide that facility with instrument approach capability. The intended effect of this action is to insure segregation of the aircraft using this approach procedure in instrument weather conditions, and other aircraft operating under visual conditions.

DATES: Comments must be received on or before July 13, 1978.

ADDRESSES: Send comments on the proposal to FAA Office of Regional Counsel, AGL-7, Attention: Rules Docket Clerk, Docket No. 78-GL-8, 2300 East Devon Avenue, Des Plaines, Ill. 60018. A public docket will be available for examination by interested persons in the Office of the Regional Counsel, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Ill. 60018.

FOR FURTHER INFORMATION CONTACT:

Doyle Hegland, Airspace and Procedures Branch, Air Traffic Division, AGL-530, FAA, Great Lakes Region, 2300 East Devon Avenue, Des Plaines, Ill. 60018, telephone 312-694-4500, extension 456.

SUPPLEMENTARY INFORMATION: The floor of the controlled airspace in this area will be lowered from 1,200 feet above ground. The development of the proposed instrument procedures

necessitates the FAA to lower the floor of the controlled airspace to insure that the procedure will be contained within controlled airspace. The minimum descent altitude for this procedure may be established below the floor of the 700 foot controlled airspace. In addition, aeronautical maps and charts will reflect the area of the instrument procedure which will enable other aircraft to circumnavigate the area in order to comply with applicable visual flight rule requirements.

COMMENTS INVITED

Interested persons may participate in the proposed rulemaking by submitting such written data, views or arguments as they may desire. Communications should be submitted in triplicate to Regional Counsel, AGL-7, Great Lakes Region, Rules Docket No. 78-GL-8, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Ill. 60018. All communications received on or before July 13, 1978, will be considered before action is taken on the proposed amendment. The proposal contained in this notice may be changed in the light of comments received. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons.

AVAILABILITY OF NPRM

Any person may obtain a copy of this notice of proposed rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-430, 800 Independence Avenue SW., Washington, D.C. 20591, or by calling 202-426-8058. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRMs should also request a copy of Advisory Circular No. 11-2 which describes the application procedures.

THE PROPOSAL

The FAA is considering an amendment to Subpart C of Part 71 of the Federal Aviation Regulations (14 CFR Part 71) to establish a 700-foot controlled airspace transition area near Kenton, Ohio. Subpart C of Part 71 was republished in the FEDERAL REGISTER on January 3, 1978 (43 FR 440).

DRAFTING INFORMATION

The principal authors of this document are Doyle W. Hegland, Airspace and Procedures Branch, Air Traffic Division, and Joseph T. Brennan, Office of the Regional Counsel.

THE PROPOSED AMENDMENT

Accordingly, the FAA proposes to amend § 71.181 of Part 71 of the Federal Aviation Regulations as follows:

In § 71.181 (43 FR 440), the following transition area is added:

KENTON, OHIO

That airspace extending upward from 700 feet above the surface within a 7.5 mile radius of the center, latitude 40°36'48" N, longitude 83°38'39" N of Hardin County Airport, Kenton, Ohio.

This amendment is proposed under the authority of section 307(a), Federal Aviation Act of 1958 (49 U.S.C. 1348(a)); section 6(c), Department of Transportation Act (49 U.S.C. 1655(c)); § 11.61 of the Federal Aviation Regulations (14 CFR 11.61).

NOTE.—The Federal Aviation Administration has determined that this document does not contain a major proposal requiring preparation of an Economic Impact Statement under Executive Order 11821, as amended by Executive Order 11949, and OMB Circular A-107.

Issued in Des Plaines, Ill., on May 8, 1978.

JOHN M. CYROCKI,
Director,
Great Lakes Region.

[FR Doc. 78-13518 Filed 5-17-78; 8:45 am]

[6320-01]

CIVIL AERONAUTICS BOARD

[14 CFR Parts 207, 208, 212, 215, 244, 249, 296, 385, 389]

[EDR-350A, ODR-15A; Docket No. 32318; dated May 11, 1978]

LIBERALIZED REGULATION OF INDIRECT CARGO CARRIERS

Supplemental Notice of Proposed Rulemaking

AGENCY: Civil Aeronautics Board.

ACTION: Supplemental notice of proposed rulemaking.

SUMMARY: This notice extends until June 23, 1978, the date for filing comments and until July 24, 1978, the date for filing replies in a rulemaking proceeding proposing a revised Part 296 which substantially liberalizes the Board's procedures in authorizing the indirect air carrier operations of air freight forwarders, international air freight forwarders, and cooperative shippers associations; and removes some of the requirements and restrictions currently imposed on the operations of these carriers.

DATES: Comments by June 23, 1978. Reply comments by July 24, 1978.

FOR FURTHER INFORMATION CONTACT:

John V. Coleman, Special Authorities Division, Bureau of Pricing and Domestic Aviation, 1825 Connecticut Avenue, N.W., Washington, D.C. 20428, 202-673-5088.

SUPPLEMENTAL INFORMATION: By Notice of Proposed Rulemaking

EDR-350/ODR-15, dated March 30, 1978, (43 FR 15720, April 14, 1978), the Civil Aeronautics Board gave notice of its proposed revision of Part 296 of the Board's Economic Regulations (14 CFR Part 296) to significantly reduce the requirements and restrictions imposed upon various types of indirect air carriers of property. The proposal was made on the Board's own initiative in recognition of the passage of Pub. L. 95-163 enacting deregulation of the air freight industry, and in consideration of changes in the air freight forwarder industry that have occurred in the last 20 years. Comments were requested to be filed by May 23, 1978, and reply comments to be filed by June 12, 1978.

The Board has now received a letter from the shippers National Freight Claim Council, Inc., stating that because of the short period of time between the date of publication and the dates that responses are due, they would be unable to contact the membership of the association and prepare a reply. They believe that adoption of the revised procedural dates would allow sufficient time for notice, comments, and replies.

Upon consideration of the above, the undersigned finds good cause to grant the request for an extension of the time for filing comments and replies. Accordingly, acting under authority delegated in § 385.20(d) of the Board's Organization Regulations (14 CFR 385.20(d)), the time for filing comments in this proceeding is extended to June 23, 1978, and reply comments to July 24, 1978.

In light of this early notice of the extension of the time to submit comments and replies, we will grant further extensions only upon showing of significant and unusual circumstances which necessitate such a request.

(Sec. 204(a) of the Federal Aviation Act of 1958, as amended, 72 Stat. 743, (49 U.S.C. 1324).)

SIMON J. EILENBERG,
Associate General Counsel,
Rules Division.

[FR Doc. 78-13508 Filed 5-17-78; 8:45 am]

[1505-01]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Social Security Administration

[20 CFR Part 416]

[Reg. No. 16]

SUPPLEMENTAL SECURITY INCOME FOR THE AGED, BLIND, AND DISABLED

Evaluating Resources on Basis of Equity Value
Correction

In FR Doc. 78-11595, appearing at page 18698 in the issue for Tuesday,

May 2, 1978, make the following corrections on page 18698:

1. In the summary statement in column 2, in the third line, "marked" should appear as "market."

2. In the summary statement in the fourth line "values" should appear as "value."

3. Also in the twelfth line of the summary statement "equitable" should appear as "equitable."

4. In the third column, line one, "(ADFDC)" should appear as "(AFDC)."

[4830-01]

DEPARTMENT OF THE TREASURY

Internal Revenue Service

[LR-181-74]

[26 CFR Parts 1, 20, and 25]

CERTAIN ARMED FORCES SURVIVOR ANNUITIES

AGENCY: Internal Revenue Service, Treasury.

ACTION: Notice of proposed rulemaking.

SUMMARY: This document contains proposed regulations relating to certain armed forces survivor annuities. Changes in the applicable tax law were made by the Employee Retirement Income Security Act of 1974 ("ERISA"). The regulations would conform existing regulations with ERISA and would affect all personnel contributing to armed forces survivor annuities.

DATES: Written comments and requests for a public hearing must be delivered or mailed by July 17, 1978. The amendments are proposed to be effective for taxable years ending, and to apply to individuals dying, after September 20, 1972.

ADDRESS: Send comments and requests for a public hearing to: Commissioner of Internal Revenue, Attention: CC:LR:T, Washington, D.C. 20224.

FOR FURTHER INFORMATION CONTACT:

Thomas Rogan of the Legislation and Regulations Division, Office of the Chief Counsel, Internal Revenue Service, 1111 Constitution Avenue NW., Washington, D.C. 20224 (Attention: CC:LR:T-181-74), 202-566-3478 (not a toll-free number).

SUPPLEMENTARY INFORMATION:

BACKGROUND

This document contains proposed amendments to the Income Tax Regulations (26 CFR Part 1) under section 122 of the Internal Revenue Code of 1954, to the Estate Tax Regulations

PROPOSED RULES

(26 CFR Part 20) under section 2039 of the Code, and to the Gift Tax Regulations (26 CFR Part 25) under section 2517. These proposals would conform the regulations to section 2008 of the Employee Retirement Income Security Act of 1974 (88 Stat. 994) and are to be issued under the authority contained in section 7805 of the Internal Revenue Code of 1954 (68A Stat. 917; 26 U.S.C. 7805).

PRE-ERISA DEVELOPMENTS

Prior to ERISA, section 122 of the Code applied to a reduction in retired or retainer pay of armed forces personnel attributable to a survivor annuity benefit under the Retired Serviceman's Family Protection Plan (10 U.S.C. 1431). Complementary provisions existed under other sections of the Code.

On September 21, 1972, Pub. L. 92-425 established similar benefits under the Survivor Benefit Plan (10 U.S.C. 1447). This Act continued the Retired Serviceman's Family Protection Plan merely to provide for the continuation of rights of persons already retired and their survivors.

EFFECT OF ERISA

Section 2008 of ERISA amends section 122 of the Code and other complementary Code provisions to apply prior tax treatment to armed forces survivor annuities under the Survivor Benefit Plan. The proposed amendments to the regulations under sections 122, 2039, and 2517 of the Code similarly apply prior tax treatment under the regulations to these annuities. Therefore, these proposals are merely conforming in nature.

COMMENTS AND REQUESTS FOR A PUBLIC HEARING

Before adopting these proposed regulations, consideration will be given to any written comments that are submitted (preferably six copies) to the Commissioner of Internal Revenue. All comments will be available for public inspection and copying. A public hearing will be held upon written request to the Commissioner by any person who has submitted written comments. If a public hearing is held, notice of the time and place will be published in the FEDERAL REGISTER.

DRAFTING INFORMATION

The principal author of these proposed regulations was Thomas Rogan of the Legislation and Regulations Division of the Office of Chief Counsel, Internal Revenue Service. However, personnel from other offices of the Internal Revenue Service and Treasury Department participated in developing the regulation, both on matters of substance and style.

PROPOSED AMENDMENTS TO THE REGULATIONS

The proposed amendments to the Income Tax Regulations (26 CFR Part 1) under section 122, the Estate Tax regulations (26 CFR Part 20) under section 2039, and the Gift Tax Regulations (26 CFR Part 25) under section 2517 are as follows:

PART I—INCOME TAX REGULATIONS

§ 1.122 [Deleted]

Paragraph 1. Section 1.122 is deleted.

§ 1.122-1 [Amended]

Par. 2. Paragraph (a) of § 1.122-1 is amended by inserting "subchapter I of" immediately preceding "chapter 73 of title 10 of the United States Code".

Par. 3. Paragraph (b)(1) of § 1.122-1 is amended to read as follows:

§ 1.122-1 Applicable rules relating to certain reduced uniformed services retirement pay.

(b) Rule applicable after December 31, 1965.—(1) In a case of a member or former member of the uniformed services of the United States (as defined in 37 U.S.C. 101 (3)), gross income shall not include the amount of any reduction made in his or her retired or retainer pay after December 31, 1965, by reason of—

(i) An election made under the Retired Serviceman's family Protection Plan (10 U.S.C. 1431), or

(ii) The provisions of subchapter II of chapter 73 of title 10 of the United States Code (also referred to in this section as the Survivor Benefit Plan (10 U.S.C. 1447)).

Par. 4. Paragraph (b)(2)(iii) of § 1.122-1 is amended by inserting in subdivision (a) "subchapter I of" immediately preceding "chapter 73 of title 10 of the United States Code"; and by substituting in subdivision (b) "sections 1438 or 1452 (d)" for "section 1438".

Par. 5. Paragraph (c) of § 1.122-1 is amended by inserting in subparagraphs (1), (3), and (4) "or the Survivor Benefit Plan (10 U.S.C. 1447)" immediately after "Retired Servicemen's Family Protection Plan (10 U.S.C. 1431)" and by inserting in subparagraph (4) "or Survivor Benefit Plan" after "whether or not reduced under the Retired Serviceman's Family Protection Plan".

Par. 6. Paragraph (d) of § 1.122-1 is amended by deleting "(as defined in § 1.79-2(b)(3))" in Example (5) and by revising the material immediately preceding "Example (1)" to read as follows:

§ 1.122-1 Applicable rules relating to certain reduced uniformed services retirement pay.

(d) Examples with respect to the Retired Serviceman's Family Protection Plan. The rules discussed in this section relating to the Retired Serviceman's Family Protection Plan (10 U.S.C. 1431) may be illustrated by the following examples:

Par. 7. Section 1.122-1 is amended by adding at the end thereof a new paragraph (e) to read as follows:

§ 1.122-1 Applicable rules relating to certain reduced uniformed services retirement pay.

(e) Principles Applicable to the Survivor Benefit Plan. The principles illustrated by the examples set forth in paragraph (d) of this section apply to an annuity under the Survivor Benefit Plan (10 U.S.C. 1447).

PART 20—ESTATE TAX REGULATIONS

§ 20.2039 [Deleted]

Par. 8. Section 20.2039 is deleted.

§ 20.2039-2 [Amended]

Par. 9. Paragraph (b)(4) of § 20.2039-2 is amended by deleting ", also referred to as the Retired Serviceman's Family Protection Plan".

PART 25—GIFT TAX REGULATIONS

§ 25.2517 [Deleted]

Par. 10. Section 25.2517 is deleted.

§ 25.2517-1 [Amended]

Par. 11. Paragraph (b)(1)(iv) of § 25.2517-1 is amended by deleting ", also referred to as the Retired Serviceman's Family Protection Plan".

JEROME KURTZ,
Commissioner of Internal Revenue.
[FR Doc. 78-13582 Filed 5-18-78; 8:45 am]

[6560-01]

ENVIRONMENTAL PROTECTION AGENCY

[FRL 879-51]

[40 CFR Part 51]

INTERGOVERNMENTAL CONSULTATION

Requirements for Preparation, Adoption, and Submittal of Implementation Plans

AGENCY: Environmental Protection Agency.

ACTION: Proposed rule.

SUMMARY: This rule proposes to consolidate existing regulations requiring intergovernmental cooperation in the development of State plans to achieve national ambient air quality standards and to combine the consolidated regulations with new regulations required by the Clean Air Act Amendments of 1977. The resultant regulations require more comprehensive coverage of air quality programs and additional involvement of affected individuals and groups on a consultation process. The regulations also define the process for designation of a lead planning organization in carbon monoxide and photochemical oxidant nonattainment areas. The new regulations are necessary to meet the requirements of sections 121 and 174 of the revised Clean Air Act. Section 121 requires that the States provide a satisfactory process of consultation with local governments, designated organizations of local elected officials, and Federal land managers. Section 174 requires the designation of a lead organization for coordinating plan revisions in areas with oxidant and carbon monoxide problems and joint State-local determination of responsibilities for plan development, implementation, and enforcement.

DATES: Comments by: June 23, 1978; public hearing: June 19, 1978; proposed publication for final regulations: July 21, 1978; proposed effective date for final regulations: January 1, 1979.

ADDRESSES: Send comments to: Office of Transportation and Land Use Policy (AW-445), Room 931 West Tower, Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT:

Jerry Kurtzweg, Office of Transportation and Land Use Policy (AW-445), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, 202-755-0570.

SUPPLEMENTARY INFORMATION: The Clean Air Act Amendments of 1977 require increased coordination and consultation among State and local officials in the achievement of national ambient air quality standards. The amended Act (section 121) requires States to include in their State implementation plans (SIP's) procedures for consulting with local governments and Federal land managers. A "satisfactory process of consultation" must be included for transportation controls, air quality maintenance, preconstruction review of direct sources of air pollution, nonattainment areas, prevention of significant deterioration, and certain compliance orders. EPA is required by the amended Act to promulgate regulations to assure adequate consultation.

Such coordination is essential given the complex nature of many control measures, especially transportation control measures, which require the involvement of both State and local governments in their design, implementation, and enforcement. Those organizations and individuals that would be affected by the SIP, (1) because of implementation or enforcement responsibilities, (2) because of the effect of the SIP on other planning responsibilities, or (3) because of the impact of poor air quality and the imposition of sanctions in the absence of an acceptable SIP, should be involved in SIP development. Only with such involvement can a successful program be developed.

In nonattainment areas for carbon monoxide and photochemical oxidants, States have additional consultation requirements under section 174 of the amended Act. States are required to determine jointly with local governments the division of responsibility for development, implementation, and enforcement of the SIP's for these areas. Local governments were provided an opportunity to designate by agreement an organization to prepare the plan for these nonattainment areas, if they did so by February 7, 1978. EPA and the Department of Transportation issued in December 1977 joint guidelines on the process and criteria to be used for such designations. The Governor is required to either certify a locally designated organization or to designate an organization or State agency. The Governor's designation must be made after consultation with local officials and in accordance with the joint determination of responsibilities.

Existing EPA regulations pertaining to intergovernmental cooperation in developing, implementing, and enforcing SIPs are now found primarily in §§ 51.21 and 51.58 of Title 40, Code of Federal Regulations. These sections deal with transference of information from one agency to another (51.21 (a) and (c)), identification of responsibilities (51.21(b)), and coordination of air quality maintenance planning with other planning programs (51.58). The Clean Air Act Amendments of 1977 require a more comprehensive approach in terms of involvement of affected programs and individuals than is required under the existing regulations.

The regulations proposed below reflect a new structure designed to make Part 51 of the Code of Federal Regulations more readable and understandable. All of Part 51 will eventually be rewritten. This new structure incorporates the use of more subparts in which regulatory material currently contained in sections will be placed. The new format also allows the use of more headings than the current format. The additional headings will enable the reader to more readily find pertinent requirements.

These proposed regulations have combined the existing regulations with the new requirements of the Clean Air Act Amendments under a new Subpart M entitled "Intergovernmental Cooperation" within Part 51. Within Subpart M, §§ 51.243 through 51.246 deal primarily with the new requirements for continuing consultation. Section 51.241 includes the process required by Section 174 of the amended Act for designation of an organization for coordinating plan revisions for carbon monoxide and photochemical oxidant nonattainment areas.

Detailed guidelines for implementing Section 174 were issued jointly by EPA and the Department of Transportation (DOT) on December 14, 1977, and were distributed to state and local governments. Because the Amendments require local designation of a planning organization by February 7, 1978, there was insufficient time to issue the information in these guidelines as regulations.

Under the 174 guidelines and the regulations contained in the proposed § 51.241, States are required to submit to the Administrator through EPA regional offices a list of all designated organizations, including a description of their boundaries and responsibilities, and brief discussion of the reasons for the designation. The guidelines request that States identify for EPA by April 1, 1978, the organization responsible for each carbon monoxide and/or photochemical oxidant nonattainment area. A list of the organizations and other related information requested by the regulations must be included in the implementation plan revision submitted by January 1, 1979.

Through the 174 guidelines and these regulations, EPA is also encouraging further coordination and consolidation of Federally sponsored planning programs. Under the guidelines, the State must consider, before designating a lead planning organization, whether the organization has other areawide planning responsibilities. Coordination or integration of common plan elements is required by Section 51.247. This encouragement is consistent with President Carter's Environmental Message of May 1977 and with subsequent actions taken by the President to eliminate, consolidate, or simplify Federal planning requirements. The Environmental Message in part stressed the need for improved implementation of environmental laws through more efficient delivery of Federally funded programs. The need to consolidate Federal planning requirements was reiterated by President Carter in his March 27, 1978, announcement of a national urban policy.

Certain requirements in these regulations related to the transportation

air quality planning processes are being proposed by both EPA and DOT. These requirements will be reflected in revisions to DOT's joint regulations for the Federal Highway Administration (FHWA) and the Urban Mass Transportation Administration (UMTA) on the transportation planning process. The revisions to the FHWA-UMTA regulations will be proposed and adopted in a separate rule-making action.

A process of consultation is not more specifically defined in these regulations because a satisfactory process may vary depending upon the program or action affected and upon established channels of communication within each State and local area. The regulations do describe the objectives of a satisfactory process of consultation. These objectives include providing for information dissemination and education, the opportunity for collaboration on development of the SIP, and joint determination of key issues in SIP development. As used in these regulations education means more than just dissemination of written information materials and may include workshops, question and answer sessions, personal visits or other techniques. Key issues include the selection of control strategies, especially those that require local enforcement, implementation or commitment of resources.

The regulations are not designed to require the replacement of existing consultation procedures. However, such procedures should be augmented or improved where necessary to ensure that affected organizations or individuals have substantial opportunity to express their opinion and concern during development of the SIP. A satisfactory process of consultation is a necessary component of an approvable SIP.

More specific guidance describing consultation procedures pertaining to the Clean Air Act requirements for a transportation planning process and prevention of significant deterioration (PSD) will be issued in the future. The transportation planning process guidelines will be published shortly. PSD regulations were proposed November 3, 1977 (42 FR 57480).

These regulations are procedural in nature and affect mainly governmental personnel. Because the required level of effort will not necessitate an appreciable increase in resources, these regulations do not meet the minimum criteria for significant regulations requiring a regulatory analysis as described in Executive Order 12044.

The relationship of Indian governing bodies to the States in implementation of EPA programs, including the air pollution control programs affected by these regulations, is currently under consideration by an EPA working

group. Thus, this issue was not explicitly addressed in these regulations.

COMMENTS AND OPPORTUNITY FOR PUBLIC HEARING

Interested parties are encouraged to participate in this proposed rulemaking action by submitting written comments, to Jerry Kurtzweg at the address given above. All relevant comments received no later than June 23, 1978, will be considered. Comments will be available for public inspection during normal business hours at the Environmental Protection Agency, Public Information Reference Unit, Room 2922, 401 M Street SW., Washington, D.C. 20460.

EPA will also hold a public hearing on today's actions. The hearing will be of the informal, legislative type. Persons desiring to appear at such a hearing should, no later than June 9, 1978, file a written statement with Jerry Kurtzweg at the address given in the introduction of this preamble. Each statement should indicate the person's name and address, the nature of the person's interest in the rulemaking proceedings, and the group or business entity (if any) such person represents. The hearing will be held on June 19, 1978, in Room 3906, 401 M Street SW., Washington, D.C. 20460. Comments filed in writing will be given equal weight to statements made at public hearings. The EPA official responsible for drafting these regulations is John Hiding, Director, Office of Transportation and Land Use Policy.

Dated: May 10, 1978.

DOUGLAS M. COSTLE,
Administrator.

EPA proposes to amend Title 40 of the Code of Federal Regulations, Chapter I, Part 51, as follows:

§ 51.21 [Reserved].

§ 51.58 [Amended].

1. Sections 51.21 and 51.58(b)-(h) are revoked and reserved.

2. Section 51.61, paragraph (d) is revised to read as follows:

§ 51.61 AQMA plan: Submittal format.

* * *

(d) AQMA plan. Applicable information required under §§ 51.52(b), 51.53, 51.54, 51.55, 51.56, 51.58, 51.59, 51.60 and Subpart M.

* * *

§ 51.63 [Amended].

3. In § 51.63 paragraph (a) the reference to "51.58(h)" is deleted from the first sentence.

Subparts E-L—[Reserved]

4. New Subparts E to L are added and reserved.

5. A new Subpart M is added as follows:

Subpart M—Intergovernmental Cooperation

AGENCY DESIGNATION

Sec.

51.240 General plan requirements.

51.241 Nonattainment areas for carbon monoxide and photochemical oxidants.

51.242 [Reserved]

CONTINUING CONSULTATION PROCESS

51.243 Consultation process objectives.

51.244 Plan elements affected.

51.245 Organizations and officials to be consulted.

51.246 Timing.

RELATIONSHIP OF PLAN TO OTHER PLANNING AND MANAGEMENT PROGRAMS.

51.247 Coordination with other programs.

51.248 [Reserved]

51.249 Transmittal of information.

51.250 A-95 clearinghouse review.

51.251 Summary of plan development participation.

AUTHORITY: Secs. 110, 121, 174(a), 301(a) Clean Air Act as amended (42 U.S.C. 7410, 7421, 7504, and 7601(a)).

SUBPART M—INTERGOVERNMENTAL COOPERATION

AGENCY DESIGNATION

§ 51.240 General plan requirements.

Each State implementation plan must identify organizations, by official title, that will participate in developing, implementing, and enforcing the plan and the responsibilities of such organizations. The plan shall include any related agreements or memoranda of understanding between the organizations.

§ 51.241 Nonattainment areas for carbon monoxide and photochemical oxidants.

(a) For each region or portion of a region in which the national primary standard for carbon monoxide or photochemical oxidants will not be attained by July 1, 1979, the Governor (or Governors for interstate areas) shall certify the organization of elected officials of local governments designated by agreement of affected local governments, or he or she shall designate, after consultation with local officials, the organization responsible for developing the revised implementation plan or portions thereof for such region. The procedures described in the "Section 174 Guidelines" issued jointly in 1977 by EPA and the Department of Transportation should be consulted in this process.

(b) The Governor shall certify the locally designated organization unless no agreement was reached by affected local governments by February 7, 1978, or the locally designated organization does not meet the criteria for a lead planning organization contained in the "Section 174 Guidelines." In making a designation, the governor shall take into consideration any on-

going process of local designation in existence on February 7, 1978. The designation shall be in accordance with the joint determination of responsibilities for plan development, implementation, and enforcement required by section 174(a) of the Clean Air Act, as amended.

(c) The Governor shall certify or designate, where feasible, the metropolitan planning organization responsible for the continuing, cooperative, and comprehensive transportation planning process required under section 134 of Title 23, United States Code; the organization responsible for air quality maintenance planning; or the organization responsible for both. In determining the feasibility of certifying or designating such an organization, the Governor shall also consider whether the organization gives adequate representation to local elected officials of general purpose governments and has areawide planning responsibilities in other Federal environmental or community development planning programs which could contribute to integration and consolidation of planning functions. Where possible, preference should be given to organizations with several programs responsibilities such as comprehensive planning or water quality management. Attention is directed to Part IV of the Office of Management and Budget Circular A-95 (41 FR 2052) which encourages the designation of established, substate comprehensive planning agencies as the agencies to carry out Federally assisted or required areawide planning.

(d) The Governor shall submit the following information to the Administrator of the EPA through the appropriate EPA regional office. The information shall be submitted as part of the State implementation plan revision required on January 1, 1979.

(1) A list of all air quality planning organizations certified or designated within the State.

(2) A description of the geographic jurisdictions of these organizations.

(3) A general description of the responsibilities of the designated or certified organizations.

(4) A brief discussion of the alternatives investigated for consolidation of environmental and other planning functions, and the basis for the selection of the designated organization.

(5) A brief description of the consultative process leading to the selection of a certified or designated organization, including the disposition of significant concerns raised by participants.

§ 51.242 [Reserved]

CONTINUING CONSULTATION PROCESS

§ 51.243 Consultation process objectives.

Any governmental organization that has the lead responsibility for develop-

ment of one of the State implementation plan elements listed in § 51.244 shall provide for a continuing intergovernmental consultation process in carrying out those responsibilities. Already established consultation processes, such as those established under § 51.241, may be used, and supplemented if necessary, to meet the requirements of this subpart. A satisfactory consultation process must include provisions to meet the following objectives:

(a) Provide for information dissemination to and education of relevant organizations and individuals.

(b) Provide an opportunity for involvement of affected governmental organizations and elected officials in development of the revised implementation plan.

(c) Provide an opportunity for joint resolution by affected governmental organizations and individuals of key issues in the development of the revised implementation plan. Key issues include the selection of control strategies, especially those that require local enforcement, implementation or commitment of resources.

§ 51.244 Plan elements affected.

The consultation process must ensure consultation during preparation of the following measures:

(a) Procedures for preconstruction review of direct sources of air pollution.

(b) Transportation-related control measures.

(c) Control measures, other than transportation-related measures, applicable to nonattainment areas.

(d) Measures for prevention of significant deterioration of air quality, and protection of visibility in Federal Class I areas.

(e) Air quality maintenance measures.

(f) Delayed compliance orders described in Section 113(d) of the Clean Air Act Amendments of 1977.

§ 51.245 Organizations and officials to be consulted.

A continuing intergovernmental consultation process established in accordance with § 51.243 shall ensure the involvement, where appropriate, of the following organizations or individuals:

(a) State agencies responsible for air pollution control, transportation planning, energy planning, community development and housing planning, solid waste management, and water quality management.

(b) Elected officials of local governments.

(c) Federal land managers having authority over lands affected by State implementation plans.

(d) Affected local and areawide agencies, responsible for air pollution control, comprehensive, community devel-

opment, transportation or energy planning, and water quality, solid waste or coastal zone management.

(e) Public interest organizations having a major interest in the program.

§ 51.246 Timing

The continuing intergovernmental consultation process shall apply to any measure related to the plan elements in § 51.244 adopted after August 7, 1978. The State implementation plan shall be revised to include such a consultation process no later than January 1, 1979.

RELATIONSHIP OF PLAN TO OTHER PLANNING AND MANAGEMENT PROGRAMS

§ 51.247 Coordination with other programs.

(a) A governmental organization that has a major responsibility for developing any of the State implementation plan elements listed in § 51.244 shall coordinate with other planning and management programs substantially affecting or affected by such elements through the development of procedures to ensure the following:

(1) Use of common data.

(2) Coordination, and where possible, integration of work programs.

(3) Use, where possible, of common policy advisory bodies.

(4) Coordinated, and where possible, common public participation and information programs.

(5) Incorporation of appropriate air quality criteria as a factor in other planning programs.

(6) Consideration of other planning objectives in development of control strategies.

(b) The coordination procedures shall include a process for determining consistency between the State implementation plan and other plans and programs, such as those pertaining to transportation, land use, solid waste, water quality, or community development substantially affecting or affected by the implementation plan. It shall include a list of any memoranda of understanding developed, as part of that process, between the agencies responsible for development, implementation, or enforcement of air quality plans. The provisions of items 3a through d, Part IV of the Office of Management and Budget Circular A-95 shall be considered in the preparation of memoranda of understanding.

§ 51.248 [Reserved]

§ 51.249 Transmittal of information.

Each plan shall provide assurances that the governmental organization having primary responsibility for implementing national air quality standards in any region, or portion thereof, will promptly transmit to other orga-

nizations having similar or related responsibility in the same or other States, information on factors (e.g., construction of new industrial plants) which may significantly affect air quality in any portion of such region or in any adjoining region.

§ 51.250 A-95 clearinghouse review.

A draft of any major implementation plan revision including any of the six elements listed in § 51.244 shall be submitted to the cognizant State and areawide clearinghouse as established under the Office of Management and Budget Circular A-95, for review and comment for a period of 45 days. Comments received from the clearinghouses within that 45-day period shall be considered. Copies of these comments shall be retained by the organization initiating the plan revision for inspection by the Administrator and the public.

§ 51.251 Summary of plan development participation.

An organization with responsibility for the development of all or a portion of the implementation plan elements listed in § 51.244 shall include in the plan:

(a) A summary of the procedure used to involve the public, local and areawide governmental organizations, State agencies and the State legislature, and Federal land managers in the development of the plan revision.

(b) A discussion of any significant comments raised during the consultation process, including those received in the A-95 clearinghouse review or in any public hearing held on the plan. The discussion shall include a description of the final disposition of such points.

[FR Doc. 78-13552 Filed 5-17-78; 8:45 am]

[4910-59]

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[49 CFR Part 571]

[Docket No. 74-9; Notice 04]

CHILD RESTRAINT SYSTEMS; SEAT BELT ASSEMBLIES AND ANCHORAGES

Proposed Rulemaking and Invitation for Applications for Financial Assistance

AGENCY: National Highway Traffic Safety Administration, Department of Transportation.

ACTION: Notice of proposed rulemaking and invitation for applications for financial assistance in commenting on the notice.

SUMMARY: This notice is being issued in response to public requests. It would amend the existing child re-

straint standard by extending its applicability to all types of child restraints designed for use in motor vehicles. It would also upgrade existing child restraint performance requirements by improving the performance criteria and by replacing static tests with dynamic tests using anthropomorphic child dummies. The amendments are intended to reduce the number of children under 5 years of age that are killed or injured in motor vehicle accidents.

DATES: Comments must be received on or before December 1, 1978. Applications for financial assistance in commenting on this notice must be received on or before June 19, 1978. Proposed effective dates: The date of publication of the final rule in the **FEDERAL REGISTER** for optional compliance with Standard No. 213-80 instead of existing Standard 213, and May 1, 1980, for Standard No. 213-80 and for the deletions from Standard No. 209.

ADDRESSES: Comments should refer to the docket number and must be submitted in writing to: Docket Section, National Highway Traffic Safety Administration, Room 5108, 400 Seventh Street SW., Washington, D.C. 20590. Applications for financial assistance should be submitted in writing to: Ms. Jeanette Feldman, Public and Consumer Affairs, National Highway Traffic Safety Administration, Room 5232, 400 Seventh Street SW., Washington, D.C. 20590, 202-426-0670.

FOR FURTHER INFORMATION CONTACT:

Mr. Jere Medlin, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, D.C. 20590, 202-426-2244.

SUPPLEMENTARY INFORMATION:

APPLICATIONS FOR FINANCIAL ASSISTANCE

The National Highway Traffic Safety Administration (NHTSA) invites all qualified individuals, organizations and other parties financially unable to participate in this proceeding to apply for financial assistance. The agency is particularly interested in applications that will innovatively address the problems of improving child restraint usage rates and the prevention of misuse.

Each applicant should specify in its application which issued it proposes to address if it receives assistance and describe the nature of its proposed work product. The agency urges applicants to indicate whether and how they will address the following issues in their comments:

(1) The impact, if any, on the cost of child restraints that would be caused by the amendments proposed in this notice and by any additional amendments advocated by the applicant;

(2) The highest practicable level of safety that child restraints can be required to achieve without causing the cost of those restraints to increase to the point that a significant number of consumers are inhibited from voluntarily purchasing child restraints; and

(3) Whether the proposed amendments alone would adequately address the problem of misuse of child restraints or whether those amendments should be replaced or supplemented by alternative nonregulatory (educational) measures. Descriptions of ideas for specific alternative measures are invited. Examples of such measures include sample labels for restraints, pamphlets to be distributed in places such as obstetricians' and pediatricians' offices, scripts for films to be shown in childbirth classes of maternity wards or on television, spot media announcements, and educational materials for groups such as medical students. Applicants who indicate that they will address the alternative measures should outline their plans for explaining why they think those measures will be effective.

All applications submitted before the deadline specified at the beginning of this notice will be examined by an evaluation board of NHTSA and Department of Transportation officials to determine whether each applicant is eligible to receive funding. Consideration of late applications is at the discretion of the evaluation board.

In general, an applicant is deemed eligible if it demonstrates in its application that: (1) It represents an interest whose representation can be reasonably expected to contribute to a full and fair determination of the issues in the proceeding; (2) its participation is reasonably necessary to represent that interest; (3) it can competently represent that interest; and (4) it lacks financial resources to participate in the absence of such assistance. If more than one applicant representing the same or similar interest is deemed eligible, the board will either select more than one applicant if the eligible applicants seek to present significantly different points of view regarding this notice or select the applicant which demonstrates that it can make the strongest presentation.

Payment may be made as soon as possible after the selected applicant has completed its work and submitted its claim. Each applicant must submit as part of its application all information required by section 5 of the financial assistance regulation which governs the operation of the Department's public participation program (42 FR 2864, January 13, 1977). Failure to submit the required information may result in delays in evaluation and possible disqualification of an application. A copy of the regulation may be obtained from Ms. Jeanette

Feldman at the address and telephone number indicated at the beginning of this notice.

BACKGROUND

NHTSA data indicate that approximately 1,000 children up to age 5 are killed and approximately 100,000 children in this age group are injured yearly as occupants of motor vehicles. Many of these deaths and injuries could be prevented or reduced in severity by restraining the child so that he or she is not thrown against the vehicle interior during a crash. Safety belts, air bags, and other devices are or will be available in motor vehicles. However, these safety devices are generally not designed for use by infants and small children and, as a consequence, offer them limited protection. The size and fragility of infants and small children makes their use of safety belts alone impractical in many cases.

Car beds, infant carriers, child seats, and child harnesses are the commonly available means of providing restraint in motor vehicles for children under 5 years of age. These child restraint systems are not mandatory safety equipment in passenger cars, but are purchased by parents voluntarily for use in motor vehicles. In addition to providing the benefit of restraint in collisions, use of these systems prevents children from falling and being injured during vehicle turns and stops. Use also prevents the children from distracting or interfering with the driver by moving around inside the vehicle while it is in motion.

Before the issuance of existing Standard No. 213, there were numerous inexpensive child seats that offered very limited protection. Standard No. 213 required the elimination or improvement of those seats.

There is substantial room for improvement in Standard No. 213 and in the provisions of Standard No. 209 regulating child harnesses. Neither standard regulates car beds or infant carriers. Both standards rely upon static instead of dynamic tests for measuring the performance of child restraints.

Further, a concerted effort needs to be made to reduce the problem of misuse of child restraints. Misuse substantially reduces the safety value of these restraints. The misuse typically takes the form of incorrect attachment of the restraint to the vehicle or incorrect securing of the child in the restraint.

Any move to upgrade Federal standards regulating child restraints is complicated by the possible price sensitivity of such restraints. The NHTSA has learned from data supplied by child seat manufacturers that approximately 20 percent of child seat sales are in the lowest price brackets. This suggests that any amendment that would

significantly raise the price of the cheapest seats could potentially have a substantial adverse effect on the sales of these voluntarily purchased items of safety equipment. The net effect on safety could be negative if the effect of sales losses exceeds the benefit of the improved performance of the restraints which are purchased. Thus, to maximize the total safety benefits of its efforts to extend and upgrade its restraint requirements, the agency must balance those improvements against impacts on the price of restraints.

The agency must also consider the effects of improved performance on the ease of using child restraints. If either the attaching of restraints to vehicles or securing of children in the restraints becomes overly complex, the already substantial problem of misuse could be greatly exacerbated.

In response to the need for an improved Federal child restraint safety standard, the NHTSA published a proposal to expand the scope of the standard to cover all forms of infant and child restraints, require dynamic crash simulation tests of the restraints with anthropomorphic test dummies, and specify the dummies to be used for those tests (39 FR 7959; March 1, 1974). Further action on that proposal was delayed pending additional work on dummy specifications and calibration. Based on recent child restraint misuse studies and a desire to improve usage of child restraints while improving safety, and on evaluation of the comments concerning the 1974 proposal, the NHTSA has decided to issue a modified proposal for a revised child restraint system standard and seek further public comment.

In a separate notice appearing elsewhere in this issue of the *FEDERAL REGISTER*, the agency is proposing specifications and performance criteria for test dummies that simulate a 3-year old child and a 6-month old infant to Part 572, Anthropomorphic Test Dummies. The comment closing date for this notice has been set for December 1, 1978, to allow child restraint manufacturers to procure, test, and evaluate their restraints using the proposed dummies. The agency would, however, appreciate receiving any preliminary comments on the proposed child restraint standard by manufacturers before testing and by other concerned individuals or organizations who will not be conducting any testing.

SUMMARY OF PROPOSED AMENDMENTS

The most significant amendments proposed by this notice are set forth below:

(1) Dynamic tests would be used to evaluate the performance of the child seating system in a manner which simulates an actual vehicle crash. The

simulated crash would be straight forward (0 degree frontal) at 30 mph. The seating systems would be anchored in accordance with the manufacturers' instructions. For restraints equipped with supplementary anchorage belts or tether straps, an additional frontal test at 20 mph would be conducted with the child restraint secured by the lap belt only, and without the tether strap attached. This test is intended to ensure a minimum level of safety performance when the tether strap is not used as data indicate happens about 50 percent of the time.

(2) A standard seat assembly, specified by drawings in docket 74-9, would be used to represent the typical vehicle bench seat and thereby avoid the cost of testing child restraints on numerous production vehicle bench seats.

(3) Injury criteria would be specified for both the head and chest of the dummy for child restraints recommended by their manufacturers for children over 20 pounds. Padding requirements would have to be met by restraints to be used by children weighing not more than 20 pounds.

(4) Frontal head and knee excursion limits would be specified for front-facing child restraints and for harnesses.

(5) During and after dynamic testing, each child restraint would have to retain the dummy within the system; exhibit no complete separation of any load-bearing structural element; if adjustable, remain in its pre-test adjusted position; and limit the collapse of the restraint seat back.

(6) To prevent child restraint surfaces from injuring children or other vehicle occupants during crashes, size, shape and energy absorption requirements would be specified for those surfaces.

(7) Requirements would be set forth for the construction of belt restraints and for the provision of belts in certain child restraint systems.

(8) The amount of force necessary to open belt buckles and release a child from a child restraint system would be specified.

(9) Child seating systems would have to be attachable to the vehicle by means of the vehicle seat belts.

(10) Specified information, such as installation instructions, and the height and weight limits for children which should use the child restraint, would have to be both on the restraint and in an accompanying information booklet or sheet.

MAJOR DIFFERENCES BETWEEN CURRENT AND 1974 PROPOSALS

(1) The current proposal proposes dynamic frontal test only while the 1974 proposal proposed dynamic frontal, lateral and rear tests.

(2) The current proposal would require child seats with tethers to be

tested at 30 mph with the tether attached and at 20 mph without it attached, while the 1974 proposal would have required only the former test.

(3) The current proposal specifies less stringent limits than the 1974 proposal specified for the distance which the child dummy head can move forward during restraint tests. However, knee excursion limits to prevent "submarining" of occupants are included in this proposal.

(4) The current proposal specifies the use of a standard vehicle bench seat assembly for testing instead of the provision in the 1974 proposal for testing on production vehicles bench seats.

(5) The current proposal sets forth three alternative ranges of permissible force levels necessary to release buckles on child restraint harnesses while the 1974 proposal used the level in existing FMVSS No. 213.

(6) The current proposal does not itself propose specifications regarding the dummies to be used for dynamic testing but is premised upon the issuance of a separate notice which will contain those specifications.

PROPOSAL FOR STANDARD NO. 213-80 APPLICABILITY

Standard No. 213-80 would impose requirements on all types of child restraints used in motor vehicles. Currently, the Federal safety standards cover only child seats, i.e., restraints for children weighing up to 50 pounds who are capable of remaining erect when seated (Standard No. 213), and type 3 belt assemblies, known as child harnesses, which are combination pelvic and upper torso restraints for children who weigh not more than 50 pounds and are capable of sitting upright by themselves (Standard No. 209). In addition to these restraints, the proposed standard would also regulate restraints, such as car beds and infant seats, used by children unable to sit erectly.

Standard No. 213 would be amended to permit, at the manufacturer's option, compliance with the current requirements of that standard or with the new requirements beginning on the date that the final rule is published in the FEDERAL REGISTER. Beginning on May 1, 1980, compliance with the new requirements (i.e., Standard 213-80) would become mandatory.

In 1974, the Juvenile Products Manufacturers Association (JPMA) recommended postponement of the requirements for infant carriers because the JPMA believes that there is a lack of sufficient data regarding the biomedical characteristics, such as cranial impact tolerance, of very small children to determine the proper criteria to be used for infant restraints. The NHTSA estimates indicate that approximately 225 deaths and 22,100 in-

juries occurred to children under 1 year of age during 1975 in crashes where restraints could have prevented death or serious injury. Therefore, the NHTSA considers such requirements essential and cannot justify further delay in their issuance. This proposal does not establish the criteria discussed by JPMA, but instead adopts the approach of specifying padding requirements for restraints used by children 20 pounds or under.

Volvo of America argued that "vehicle specific" child restraints (systems uniquely designed for installation in a particular make and model automobile but which do not utilize vehicle seat belts for anchorage) should be exempt from the new regulation. The agency has considered the currently available vehicle specific systems and concluded that when used properly they would provide an adequate level of dynamic and other performance characteristics. Despite this advantage, the agency is concerned that allowing a device which is uniquely designed for specific vehicles would result in misuse; i.e., use in other than those specific vehicles. It is traditional in the United States for families with children to "hand down" the paraphernalia, such as child restraints, needed for infants and small children to other families with infants. Thus, it can be expected that a vehicle specific child restraint would be handed down to someone with a different make and model of car who would then attempt to use it despite its inappropriateness for that vehicle. The safety value of a restraint used improperly is greatly diminished. Also the installation of these devices even in Volvos varies from model to model and requires complex instructions. All of these factors make the possibility of improper use very high.

Standardization of the means of anchoring a child restraint to a vehicle is vital to prevent misuse. By requiring all restraints to be attachable to vehicle seats by the vehicle seat belt, consumers will be assured of a uniform method of attaching the restraint and there will be less confusion regarding that aspect of use. For similar reasons, the agency requires that all vehicle seat belts have push button releases.

A simple, effective way of testing vehicle specific seats has not been devised. Therefore the agency is concerned that if an exemption were allowed for vehicle specific seats, the absence of control over their manufacture could result in the design and production of relatively unsafe seats which do not securely attach to the vehicle, and do not provide an adequate level of child protection.

For these reasons, the agency proposes that vehicle specific child restraints must comply with the new standard.

DYNAMIC TESTS

One of the most significant prerequisites for a safe, useful child restraint system is that its use means that it does not injure the child for providing restraint and preventing occupant impact with the vehicle interior. Other significant prerequisites are that restraints not concentrate excessive loads on the soft portions of a child's body, or collapse, separate, or fold to compress or otherwise injure a child during a crash.

The static force test currently in Standard 213 can only partially ensure that these prerequisites are met. In these tests, forces that are in the range of those encountered in a crash are gradually applied to the restraint system by means of a laboratory tensioning device. While this method of testing measures the strength of the device, it does not evaluate the performance of the system under conditions similar to those found in an actual vehicle crash.

A superior way of evaluating the performance of a child restraint is to do so in a dynamic simulation of a vehicle impact. This way provides greater assurance that the restraint will withstand an actual crash without injuring the child. The dynamic simulation involves securing a test dummy in the child restraint which in turn is attached to a representative three position vehicle bench seat. The assembly is then subjected to acceleration to simulate a vehicle crash.

Dynamic testing such as this is routinely used to evaluate the performance of both experimental and mass-produced vehicles and equipment. For example, the agency's Standards Nos. 204, 208, 212, and 301-75 employ dynamic testing to evaluate vehicle systems.

The NHTSA has drawn upon substantial work on dynamic testing in developing this proposal. Several organizations and the NHTSA have undertaken research and testing to develop a suitable dynamic test requirement for child restraint systems. An existing Canadian standard specifies dynamic test requirements. The Economic Commission of Europe and some member countries have developed drafts of dynamic test standards. As noted above, the NHTSA issued and received comment on a proposed dynamic test standard. Further, Consumers Union has conducted comparative dynamic tests of child restraint systems available in this country.

A standard vehicle seat assembly with three seating positions would be used in the dynamic testing. It was developed by the Highway Safety Research Institute at the University of Michigan. The standard seat, which has replaceable foam cushions, would save the restraint system manufacturers the expense which they would have borne under the 1974 proposal of

testing their restraints on a variety of production vehicle bench seats. Use of the standard seat will also greatly simplify the testing program. The seat is representative of production bench seats. For example, the standard seat back deflects a programmed amount in frontal crash simulations to reflect the performance of production seats. This standard seat has already been used in three child restraint system testing programs. Copies of the Drawing Package SAD-100-1000 for the standard seat assembly may be purchased from the NHTSA's Technical Reference Division at the same address given above for the Docket Room or by calling Mr. Robert Hornick at 202-426-2768. The original report regarding the seat's development is available under Contract No. DOT-HS-4-00865, "Fabrication of a Standard Vehicle Bench Seat."

The child restraints would be tested in the center seating position of the standard seat. Available data indicate that the center position is generally the safest position in which to install a child restraint system and is consequently the position recommended by this agency for use by motorists.

In response to Hamill's request to know the number of tests necessary as a basis for certification, the agency notes that the Act requires that each vehicle and item of equipment comply with applicable standards, and that the manufacturer must certify compliance with those standards "in the exercise of due care" (15 U.S.C. 1397 (b)(2)). The NHTSA's longstanding position is that a manufacturer is free, within the limits of due care, to choose any means to determine that a vehicle or item of equipment would comply if tested by the agency in the manner specified in the standard. Thus, the chosen means must be reasonably calculated to establish compliance. What constitutes due care varies with the circumstances of each manufacturer. All manufacturers must make the initial determination of what is sufficient as part of their duty to certify. The final determination is made by the agency.

Questor Corporation asked for a tolerance for the impact velocity at which a child restraint system must comply. As the agency has stated in its interpretations on similar issues, the safety standards do not set forth instructions, but performance levels that vehicles and equipment are required by law to be capable of meeting. The use of any tolerance for this purpose would be meaningless and confusing. For example, stating that a product must meet a performance requirement while traveling at 30 mph, plus or minus 1 mph, is the legal equivalent of specifying 29 mph with no tolerance. Manufacturers can accommodate any problems they may

have in this regard by testing at a speed sufficiently higher than the speed specified in the standard. Questor's suggestion has, therefore, not been adopted.

TEST DUMMIES

A six-month old dummy and a three-year old dummy have been tentatively selected for testing child restraint systems under the proposed standard. The six-month old dummy was specified in the 1974 proposal as being of "sailcloth construction filled with plastic pellets and lead shot for correct weight distribution." The dummy has since been dynamically tested, modified, and retested in infant carriers of three different manufacturers. The new dummy represents an advance in the state-of-the-art and is vastly superior to the former dummy. Very precise definitions of the new dummy are contained in a set of five blueprints and an engineering description which are available in docket 74-9 to all interested persons.

The tentatively selected three-year old dummy is the NHTSA test dummy SA103C, a slightly modified version of the Alderson Model VIP-3C dummy. The NHTSA test dummy SA103C is available for purchase from at least one dummy manufacturer and blueprints are available in docket 74-9 for use by any manufacturer wishing to produce these dummies. An operation and maintenance manual for the dummy is also available in the docket. Detailed instructions for clothing the three-year old dummy are specified in the proposal to ensure that the test conditions are carefully controlled.

Drawing Packages for both the six-month old dummy and the three-year old dummy may be obtained from: Cooper-Trent Operation, Keuffel-Esser Co., 15251 N. Danville St., Arlington, Va. 22201, Attention: V. Cascio 703-524-9000.

As noted above, a proposal to incorporate the specifications and performance criteria for the tentatively selected six-month and three-year-old dummies in Part 572, Anthropomorphic Test Dummy, of Title 49 of the Code of Federal Regulations appears in today's issue of the FEDERAL REGISTER. The December 1, 1978, comment closing date will permit child restraint manufacturers to procure the proposed dummies and test and evaluate their restraints during the comment period.

DYNAMIC PERFORMANCE

In the simulated crash tests, the child restraint would be required to maintain system integrity (i.e., not fracture or separate) and limit excursion of the torso, head, and knees. These requirements would reduce the likelihood that a child using a child restraint system would be injured by the

collapse or disintegration of the system or by contact with the interior of the passenger compartment. A head injury criterion (HIC) and maximum acceleration level for the chest would be specified to limit forces on the child to tolerable levels.

One objective of the system integrity requirements is to prevent ejection from the restraint system. Another is to ensure that the system does not fracture or separate in such a way as to harm the child. To this end, this notice proposes that when a restraint system is dynamically tested with the appropriate dummy (some systems, such as ones convertible from infant carriers to child seats, would be tested with both dummies) seated in it, there would not be any complete separation of any load bearing structural element of the system or any partial separation exposing surfaces with sharp edges that may contact an occupant. This proposal is a modification of the 1974 one which would have prohibited any separation. This change was made in response to the comment by most child restraint manufacturers that some separation might be purposely designed into a restraint system to improve its energy absorption performance.

This proposal specifies that an adjustable-position restraint would have to be able to meet the system integrity requirements at any designated adjustment position recommended by the restraint's manufacturer for use in motor vehicles and that it remain in its adjusted position during the test. USI West Company suggested that "controlled change of adjustment" or limited movement from one adjustment position to another be permitted. Dynamic tests have shown that the movement of adjustable or reclining restraints can trap a child's finger between the moving parts and sever it. Therefore, USI West's suggestion has not been adopted.

Some front-facing restraint systems have seat backs that could collapse during a crash and injure children by compressing them. Accordingly, this proposal would require that front-facing restraints be constructed so that the angle between the child restraint seat back and the restraint seating surface is not less than 45° after the test.

Injury criteria (expressed in terms of limits on resultant acceleration) are proposed for both the head and chest of the three-year-old test dummy to allow a quantitative evaluation of the dynamic performance of the child restraints to be made. This approach permits the measurement of padding effectiveness during the dynamic test, thus eliminating any need for a separate test for that purpose and the costs associated with such a test. Since the construction of the six-month-old

dummy prevents installing accelerometers so that they will stay in place within the dummy during a test and give accurate measurements, the injury criteria would apply only to restraints recommended by their manufacturers for use by children weighing over 20 pounds.

This notice proposes forward head and knee excursion limits (i.e., limits on how far these portions of the body may move forward) for front-facing child restraints and harnesses. The head excursion limits reflect the maximum available distance for safe forward movement available in cars today. These limits are greater than those proposed in 1974. The increase is proposed to encourage child restraint designs that are easy for motorists to use properly. The knee excursion limits would prevent restraint manufacturers from controlling head excursion by designing their restraints so that their occupants submarine excessively during a crash, i.e., so that their bodies slide down and forward, legs first.

Further, front-facing child restraints and child harnesses would be required to retain the torso of the dummy within their confines during the dynamic testing. In the case of child harnesses and front-facing child restraints with harnesses, the retention requirement would be met if after the dynamic testing the belts of the harness were still located across the appropriate areas of the torso. In the case of front-facing systems without harnesses, the agency is considering defining retention as not permitting the center of each head target point on either side of the dummy head to touch or pass through a horizontal plane 4 inches vertically above the center of the head target points when the dummy is placed in accordance with the proposal in the system before the dynamic testing.

When dynamically tested, rear-facing restraints (i.e., infant carriers) would be required to retain the dummy's head within the confines of the restraint and the back support surface would not be allowed to tip forward far enough for the angle between it and the vertical to exceed 60 degrees. If the support surface were allowed to tip more, the infant in the restraint could slide headfirst out of the shoulder straps because of the rounded shape of an infant's shoulders. Retention here would have the same meaning suggested above for child harnesses. Child beds would be required to retain the dummy's head and torso within its confines during the dynamic testing. The typical car bed is rectangular and has an open top and sides of uniform height. Retention in the case of these car beds would mean not permitting any portion of the dummy head or torso to pass

through a plane tangent to the tops of the car bed sides.

Unlike the 1974 proposal, this proposal does not contain requirements for lateral dynamic tests and for limits on lateral excursion. During 1977, the NHTSA tested a number of child restraints and found that in outside seating positions only one of those restraints, one which required a tether, could meet the lateral head excursion limits necessary to prevent head contact with the door and other interior vehicle side surfaces in a 20 mph test at a horizontal angle of 60 degrees from the direction of the test platform travel. Some restraints with impact shields, which performed well in frontal crashes and which are rarely misused, could not pass the lateral test even when placed in the center seating position. Because of the cost of the design changes necessary to meet the lateral test, the problems with misuse of tethers, and the possible price sensitivity of child restraint sales, the agency decided not to repropose lateral requirements now.

Rear dynamic tests too have not been reproposed. One reason for not doing so is that child restraint systems having head restraints meeting the requirements proposed in this notice present virtually no problem related to protecting a child in a rear crash. To require the balance of the restraint systems to have such head restraints would raise the same price concerns posed by lateral test requirements without commensurate benefits.

All restraints would be required to meet the applicable proposed performance requirements at 30 mph, the same speed used in Standard No. 208 for testing occupant restraints for children over the age of 5 and adults. Adjustable restraints would be in any position intended for use in a motor vehicle. The restraints would be secured by a vehicle lap belt and, if provided with the restraint, a supplementary tether strap.

The agency is also proposing an additional dynamic test at 20 mph for child restraint systems equipped with tether straps as a supplemental means of attaching the system to a car. The test would be conducted with the system secured by a vehicle lap belt, but the tether would be left unattached. When the tethers on these restraints are properly attached and the lap belt properly tightened, these restraints generally provide superior protection against striking the side of the vehicle interior. They are also among the most effective in preventing children from striking interior surfaces in front of the child restraint. However, surveys show that the tether straps are unused by motorists about 50 percent of the time. The agency is concerned that a single 30 mph test of these systems with the tether at-

tached would therefore be inadequate. The additional test would assure that at least a minimum level of protection is provided when the tether is not used to attach these systems to the vehicle. The NHTSA has tested existing child restraints and determined that the proposed 20 mph test requirement can be met without the use of a tether.

Comment is requested on whether all restraints, including those equipped with tethers, should be required to meet the performance requirements when tested at 30 mph while secured by means of a vehicle lap belt only. Such a requirement would provide increased assurance of safe performance even when child restraints with tethers are installed without the use of the tethers.

ENERGY ABSORPTION AND DISTRIBUTION

Child restraint systems can be designed so that they do not present hostile or hard surfaces capable of injuring a child during a crash. The primary means for accomplishing this goal is to ensure that restraint surfaces absorb and distribute crash forces.

There are two categories of force distribution requirements proposed by this notice. The first relates to the support surfaces that would have to be provided in most restraints other than car beds to control the rearward movement of a child's head during a crash. Unless the child restraint enabled a child to sit low enough so that the vehicle seat back would provide rearward head restraint, child restraints other than car beds would have to have a seat back of a minimum height and width.

The second category of force distribution requirements specifies minimum surface area requirements for forward and side restraint surfaces and contour requirements for forward, side, and rear surfaces which are provided in restraints other than car beds. It should be emphasized that these provisions would not require the provision of such surfaces. They would simply regulate those that the manufacturers decide to provide.

Back supports would have to have at least 85 square inches of surface area. This figure represents the minimum torso contact area, based on calculations utilizing the three-year old dummy, that should be provided to keep force levels within an acceptable range. The torso dimensions of that dummy are also the basis of the proposed minimum areas and contours of the side and forward support surfaces.

To eliminate one way in which motorists misuse forward facing child restraints, this proposal would prohibit restraints from having any surface or component that is or can be adjusted or moved so that it is directly in front of the child, except for surfaces and components designed to restrain the

child in a forward crash. This provision would eliminate arm rests that flip down in front of a child and that are not designed to provide restraint. Typically, these arm rests are present on child restraint systems that are equipped with harnesses and that are designed for use by children who sit erect. These arm rests are often mistaken by motorists as means by themselves of adequately restraining the child and are partially responsible for the low usage rate (46 percent) of harnesses in child seats.

Child restraints recommended for children who weigh 20 pounds or less cannot be tested with the three-year old dummy. Thus, no quantifiable performance evaluation can be made of those restraints. Therefore, the agency proposes for these restraints that surfaces that are contacted by the dummy head during dynamic testing must meet a padding requirement and static compression test.

Injury from contacting protrusions, such as the pointed ends of screws mounted in flexible materials, would be prevented by this proposal. The height of such protrusions would be limited to not more than three-eighths of an inch above any immediately adjacent surface. Further, an exposed edge with a radius of less than one-fourth of an inch would be prohibited. Also, restraints would not be permitted to separate and create jagged edges that could injure a child during a crash.

CHILD RESTRAINT BELT SYSTEMS

To ensure the safe performance of the belts and associated hardware used to attach the child restraint to the vehicle, or to hold the child in the restraint, the agency is proposing requirements for the construction of belts, where provided, and for the provision of belts in certain restraints. A minimum width of 1½ inches would be required if the belt is contactable by the dummy during test procedures. Standard No. 209's belt and buckle requirements, such as those relating to abrasion, resistance to light, resistance to microorganisms, color fastness, corrosion resistance and temperature resistance, would also be required to be met. Belt elongation and strength would not be specifically regulated in new Standard No. 213-80. However, these factors would have to be considered by manufacturers of child restraints equipped with belts to ensure that the webbing abrasion and the proposed acceleration and excursion limits are met.

In addition to these construction requirements, the agency is proposing requirements for the provision of a minimum number and configuration of belts. Any restraint system belt that contacts the dummy during the test procedure would be prohibited from

also being used for attachment of the restraint to the vehicle if it allows inertial forces from the child seat or vehicle seat back to impose a load on the child. Over-the-shoulder belts and a pelvic-crotch belt combination would be required for child harnesses. The harness would also prevent a child from standing while harnessed so that he or she would not be subjected to whiplash. Other child restraints would be required to provide upper and lower torso restraint that could be satisfied by over-the-shoulder belts and a pelvic-crotch belt if the restraint is recommended for use only by children weighing over 20 pounds.

In the interest of preserving system integrity, this notice proposes also that buckles used in restraint systems be operable following the prescribed dynamic tests. JPMA, Volvo, and USI West suggested that a 30-pound maximum be established as the force necessary to release a buckle so that a buckle could be designed to discourage release by the child while the vehicle is in motion. USI West also suggested a minimum lower release force of 15 pounds. Other commenters indicated that the buckle release force on child restraints should be sufficiently low to assure that children could escape from the restraints in emergencies without the help of an adult. The Economic Commission of Europe (ECE) Group or Rapporteurs on Protective Devices proposed in March 1977 that the release force for buckles on child restraints be between 2.25 pounds and 13.5 pounds. This range, the Group said, allows the restraint manufacturer flexibility in designing his restraint system buckles to meet whichever of the two goals described above he believes is preferred by consumers. The National Swedish Road and Traffic Institute conducted a 1975 study entitled, "Handling Performance of Buckles on Child Seats with Regard to Opening Force Requirements." This study suggests the desirability of 12 pound minimum and 20 pound maximum requirements.

To maintain rulemaking flexibility, three alternatives for buckle release force are proposed. The first adopts the 12 pound minimum and 20 pound maximum force requirements indicated by the Swedish Road and Traffic Institute study. The second adopts force requirements in the CEC proposal. The third option is that the maximum force necessary to operate the buckle cannot be greater than 20 pounds. This is the existing Standard No. 213 requirement.

ORIENTATION AND METHOD OF INSTALLATION

Experience with early child seating systems demonstrated that the means for attaching the systems to a vehicle is crucial to the safety of their per-

formance in a crash. For example, a seating system which hooks over the back of a vehicle seat could come loose in a crash. One reason for that problem is that the vehicle seat back is not strong enough to anchor a restraint unless the seat back is anchored by auxiliary means. Standard No. 213 currently prohibits attaching child restraints to vehicle seat backs by such over-the-seat means. This prohibition has not proven sufficient to ensure that child restraints are properly attached to vehicles. Recent surveys show that only about half of the child restraints are anchored in the vehicle properly, i.e., with a vehicle lap belt. A factor which contributes to this problem is the designing of child restraints so that they have a component which is inserted between the vehicle seat and seat back. As these components are often used as the only means of attaching the restraints to the vehicle, motorists appear to believe that the components are adequate by themselves for that purpose. Such is not the case. To prevent this improper installation, this proposal would prohibit child restraints from having any components that are designed to be used to attach the restraints to a vehicle seat or seat back or any components (other than belts) that can be inserted between a vehicle seat and seat back.

All child restraints, with the exception of child harnesses, must be capable of being secured to a vehicle with a Type I (lap) seat belt as specified in Standard No. 209. The restraint must be capable of being anchored tightly to the vehicle with the lap belts specified in Standard No. 208 for passenger seats. One auxiliary anchorage strap (tether) would be permitted to be supplied with the child restraint.

This proposal would also require that car beds be designed to be installed so that their longitudinal axis is perpendicular to the longitudinal axis of the vehicle in which it is installed. This requirement would ensure that an infant lies crosswise in the vehicle so that the crash loads in frontal crashes would not be imposed along the direction of the infant's spinal cord and would be distributed over the maximum body area.

LABELING AND INSTRUCTIONS FOR USERS

Commenters on the 1974 proposal generally agreed that one of the most significant problems in improving child safety through child restraints is the incorrect use of the restraints by motorists. This notice proposes new labeling requirements to encourage proper use of child restraints. So that the information would serve as a constant reminder, information on the correct use of the child restraint would be required to be visible on the system as it is installed in a vehicle.

Such information is currently often placed on the bottom or backs of child restraint systems. The agency recognizes that some child restraint systems may have limited space for displaying the instructions and warnings in the manner proposed in this notice. Comment is requested on the relative importance of displaying each of the instructions and warnings so that it is visible when the system is installed. A diagram showing the restraint correctly installed in a vehicle would be included in the labeling information. The labeling information would also contain items such as the height and weight limits of the children for which the restraint is designed, and warnings to use and snugly adjust all belts, to secure the restraint according to its manufacturer's instructions, to use any supplemental anchorage strap (tether) for attaching the restraint to a vehicle, and not to use any restraint adjustment position specified as being inappropriate for use in a motor vehicle. The proposal would also require that the manufacturer indicate the manufacturer and model of the child restraint, and the month, year, and place of manufacture, and state that the restraint complies with all applicable Federal motor vehicle safety standards.

Another means for encouraging proper use of child restraints is the instruction sheet or booklet that accompanies restraints. Consequently, the agency is proposing that all restraints be accompanied by instructions, including diagrams, for installing the restraints in any passenger seat in motor vehicles. The instructions would not necessarily have to address each type of motor vehicle expressly or separately. However, they must provide sufficient information to enable a user of a restraint in any type of vehicle to install the restraint in any passenger seat in that vehicle. For example, general information on installation of tether anchorages in vehicle floors may be sufficient to inform users of station wagons, vans, and hatchbacks how to install such anchorages. The instructions would also be required to state that the center rear seating position in passenger cars is the safest seating position and that child restraints should therefore be installed in that position. Comments are invited on what additional instructions manufacturers should be required to give to ensure proper use of child restraints. Questions include what advice should be given consumers using cars without a center rear seating position and to consumers having 2 or more children using child restraints. Comments are also requested on whether a brief explanation should be given of the primary consequences of not following the warnings and instructions provided by the manufacturer on the re-

straint. An example of such an explanation is that failure to attach the tether on systems having top tethers may result in the top part of the system bending forward during a crash and striking the dashboard or back of the front seat, depending on where the restraint is installed. Another example would be explain that failure to adjust belts snugly may result in the child coming entirely out of the restraint during a crash or in crash forces being placed on the wrong portions of the child's body.

VEHICLE SEAT BELTS AND CHILD RESTRAINT BELT ANCHORAGES

This rulemaking action raises a number of tangential issues regarding motor vehicle seat belts and anchorages for child restraint belts or tethers. Comment is invited on these issues. One issue concerns the compatibility of inertial reels for seat belts with child restraints. The agency has conducted tests of properly positioned child restraints anchored with inertial reel belts and has found no significant problem in crash environments. However, information is desired on the extent to which inertial reels may permit child restraints to move out of position during turns, slow stops and the initial phases of a quick stop.

The Physicians for Automotive Safety has raised another issue. That organization has petitioned to amend Standard 208, relating to occupant restraints, to require that lap belts be provided with passive belts in order that child restraints may be installed in any passenger seat equipped with passive belts. Volkswagen has submitted information to the public docket indicating that their passive belt restraint system performs better in a frontal crash without a lap belt than with one. Therefore, they do not want that seating positions equipped with a passive belt to be required to have a lap belt also. At the same time, the NHTSA is concerned that the absence of a lap belt in the front seat of passenger cars might further discourage the use of child restraints. It is clear that child restraints are more effective when properly used in the center rear seating position than in the front seat. However, the agency anticipates that some motorists will nevertheless install child restraints in the front seat. Comments are requested on this issue.

There are two issues regarding anchorages for tethers supplied with some child restraints. One additional way of prompting proper use of the tethers would be to require vehicle manufacturers to install anchorages as standard equipment. Another way would be to require vehicle manufacturers to inform new vehicle purchasers of the best places for installing tether anchorages for each passenger seat. Comments on these issues should

include a discussion of the benefits and other impacts of rulemaking to address the underlying problems. The agency also requests comments on the cost and desirability of requiring child restraints to meet the flammability requirements of Federal Motor Vehicle Safety Standard No. 302.

COSTS AND BENEFITS

The NHTSA has conducted a preliminary evaluation of the economic and other consequences of this proposal on the public and private sectors. An environmental impact assessment and an economic evaluation have been placed in the docket for this rulemaking.

The benefits from the existing child restraint standard are severely limited by the low rate of child restraint use and by the even lower rate of proper use of the restraint. Surveys indicate that adults properly restrain at best 20 percent of infants in motor vehicles and a mere 5 percent of children aged 1-4 years.

The projected benefits for this proposal are similarly affected by use rates. The agency estimates that the extensive requirements for label warnings and installation instructions will result in slightly higher use rates and projects that the proposal would result in 5 fewer fatalities and 980 fewer injuries annually. Should those restraints being improved to meet the new standard undergo some loss in sales due to their expected higher prices, the NHTSA still estimates benefits of 4 fewer fatalities and 725 fewer injuries per year. Because of the large difference in effectiveness between restraints that can pass the proposed dynamic test and those which have passed only a static test, there would have to be five lost sales for every restraint being upgraded to completely offset the safety gains. The agency finds no indication that there will be any sales loss even approaching this magnitude.

Because of this proposal, restraints which have already been designed to pass dynamic tests are expected to increase in price by about \$1. Those now failing the dynamic test would be expected to increase in price by approximately \$14. The average price increase would be about \$3.70.

All comments must be limited not to exceed 15 pages in length. Necessary attachments may be appended to these submissions without regard to the 15-page limit. This limitation is intended to encourage commenters to detail their primary arguments in a succinct and concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential information, should be submitted to the Chief Counsel,

NHTSA, at the address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. Any claim of confidentiality must be supported by a statement demonstrating that the information falls within 5 U.S.C. section 552(b)(4), and that disclosure of the information is likely to result in substantial competitive damage; specifying the period during which the information must be withheld to avoid that damage; and showing that earlier disclosure would result in that damage. In addition, the commenter or, in the case of a corporation, a responsible corporate official authorized to speak for the corporation must certify in writing that each item for which confidential treatment is requested is in fact confidential within the meaning of section 552(b)(4) and that a diligent search has been conducted by the commenter or its employees to assure that none of the specified items has previously been released to the public.

The agency has reviewed the impacts of this regulation and determined that it is not a significant regulation within the meaning of Executive Order 12044.

The principal authors of this notice are Mr. Jere Medlin, Office of Vehicle Safety Standards, and Ms. Kathleen DeMeter, Office of the Chief Counsel.

In consideration of the foregoing, it is proposed that the following amendments be made in Part 571, Chapter V of Title 49, Code of Federal Regulations:

1. Standard No. 209, Seat Belt Assemblies (49 CFR 571.209), would be revised as follows:

§ 571.209 Standard No. 209; Seat belt assemblies.

S1. *Purpose and Scope.* This standard specifies requirements for seat belt assemblies.

S2. *Application.* This standard applies to seat belt assemblies for use in passenger cars, multipurpose passenger vehicles, trucks, and buses.

S3. *Definitions.* "Seat belt assembly" means any strap, webbing, or similar device designed to secure a person in a motor vehicle in order to mitigate the results of any accident, including all necessary buckles and other fasteners, and all hardware designed for installing such seat belt assembly in a motor vehicle.

"Pelvic restraint" means a seat belt assembly or portion thereof intended to restrain movement of the pelvis.

"Upper torso restraint" means a portion of a seat belt assembly intended to restrain movement of the chest and shoulder regions.

"Hardware" means any metal or rigid plastic part of a seat belt assembly.

"Buckle" means a quick release connector which fastens a person in a seat belt assembly.

"Attachment hardware" means any or all hardware designed for securing the webbing of a seat belt assembly to a motor vehicle.

"Adjustment hardware" means any or all hardware designed for adjusting the size of a seat belt assembly to fit the user, including such hardware that may be integral with a buckle, attachment hardware, or retractor.

"Retractor" means a device for storing part or all of the webbing in a seat belt assembly.

"Nonlocking retractor" means a retractor from which the webbing is extended to essentially its full length by a small external force, which provides no adjustment for assembly length, and which may or may not be capable of sustaining restraint forces at maximum webbing extension.

"Automatic-locking retractor" means a retractor incorporating adjustment hardware by means of a positive self-locking mechanism which is capable when locked of withstanding restraint forces.

"Emergency-locking retractor" means a retractor incorporating adjustment hardware by means of a locking mechanism that is activated by vehicle acceleration, webbing movement relative to the vehicle, or other automatic action during an emergency and is capable when locked of withstanding restraint forces.

"Seat back retainer" means the portion of some seat belt assemblies designed to restrict forward movement of a seat back.

"Webbing" means a narrow fabric woven with continuous filling yarns and finished selvages.

"Strap" means a narrow nonwoven material used in a seat belt assembly in place of webbing.

"Type 1 seat belt assembly" is a lap belt for pelvic restraint.

"Type 2 seat belt assembly" is a combination of pelvic and upper torso restraints.

"Type 2a shoulder belt" is an upper torso restraint for use only in conjunction with a lap belt as a Type 2 seat belt assembly.

S4. *Requirements.*

S4.1 (a) *Single occupancy.* A seat belt assembly shall be designed for use by one, and only one, person at any one time.

(b) *Pelvic restraint.* A seat belt assembly shall provide pelvic restraint whether or not upper torso restraint is provided, and the pelvic restraint shall be designed to remain on the pelvis under all conditions, including collision or roll-over of the motor vehicle. Pelvic restraint of a Type 2 seat belt assembly that can be used without upper torso restraint shall comply with requirement for Type 1 seat belt assembly in S4.1 to S4.4.

(c) *Upper torso restraint.* A Type 2 or Type 3 seat belt assembly shall provide

upper torso restraint without shifting the pelvic restraint into the abdominal region. An upper torso restraint shall be designed to minimize vertical forces on the shoulders and spine. Hardware for upper torso restraint shall be so designed and located in the seat belt assembly that the possibility of injury to the occupant is minimized.

A Type 2a shoulder belt shall comply with applicable requirements for a Type 2 seat belt assembly in S4.1 to S4.4, inclusive.

(d) *Hardware.* All hardware parts which contact under normal usage a person, clothing, or webbing shall be free from burrs and sharp edges.

(e) *Release.* A Type 1 or Type 2 seat belt assembly shall be provided with a buckle or buckles readily accessible to the occupant to permit his easy and rapid removal from the assembly. Buckle release mechanism shall be designed to minimize the possibility of accidental release. A buckle with release mechanism in the latched position shall have only one opening in which the tongue can be inserted on the end of the buckle designed to receive and latch the tongue.

(f) *Attachment hardware.* A seat belt assembly shall include all hardware necessary for installation in a motor vehicle in accordance with SAE Recommended Practice J800B, Motor Vehicle Seat Belt Installations, September 1965. However, seat belt assemblies designed for installation in motor vehicles equipped with seat belt assembly anchorages that do not require anchorage nuts, plates, or washers, need not have such hardware, but shall have 7/16-20 UNF-2A or 1/2-13UNC-2A attachment bolts or equivalent hardware. The hardware shall be designed to prevent attachment bolts and other parts from becoming disengaged from the vehicle while in service. Reinforcing plates or washers furnished for universal floor installations shall be of steel, free from burrs and sharp edges on the peripheral edges adjacent to the vehicle, at least 0.06 inch in thickness and at least 4 square inches in projected area. The distance between any edge of the plate and the edge of the bolt hole shall be at least 0.6 inch. Any corner shall be rounded to a radius of not less than 0.25 inch or cut so that no corner angle is less than 135° and no side is less than 0.25 inch in length.

(g) *Adjustment.* (1) A Type 1 or Type 2 seat belt assembly shall be capable of adjustment to fit occupants whose dimensions and weight range from those of a 5th-percentile adult female to those of a 95th-percentile adult male. The seat belt assembly shall have either an automatic-locking retractor, an emergency-locking retractor, or an adjusting device that is within the reach of the occupant.

(2) A Type 1 or Type 2 seat belt assembly for use in a vehicle having seats that are adjustable shall conform to the requirements of S4.1(g)(1) regardless of seat position. However, if a seat has a back that is separately adjustable, the requirements of S4.1(g)(1) need be met only with the seat back in the manufacturer's nominal design riding position.

(3) The adult occupants referred to in S4.1(g)(1) shall have the following measurements:

	5th-percentile adult female	95th-percentile adult male
Weight.....	102 lbs.	215 lbs.
Erect sitting height.....	30.9 in.	38 in.
Hip breadth (sitting).....	12.8 in.	16.4 in.
Hip circumference (sitting).....	36.4 in.	47.2 in.
Waist circumference (sitting).....	23.6 in.	42.5 in.
Chest depth.....	7.5 in.	10.5 in.
Chest circumference:		
Nipple.....	30.5 in.	44.5 in.
Upper.....	29.8 in.	44.5 in.
Lower.....	26.6 in.	44.5 in.

(h) *Webbing.* The ends of webbing in a seat belt assembly shall be protected or treated to prevent raveling. The end of webbing in a seat belt assembly having a metal-to-metal buckle that is used by the occupant to adjust the size of the assembly shall not pull out of the adjustment hardware at maximum size adjustment. Provision shall be made for essentially unimpeded movement of webbing routed between a seat back and seat cushion and attached to a retractor located behind the seat.

(i) *Strap.* A strap used in a seat belt assembly to sustain restraint forces shall comply with the requirements for webbing in S4.2, and if the strap is made from a rigid material, it shall comply with applicable requirements in S4.2, S4.3, and S4.4.

(j) *Marking.* Each seat belt assembly shall be permanently and legibly marked or labeled with year of manufacture, model, and name or trademark of manufacturer or distributor, or of importer if manufactured outside the United States. A model shall consist of a single combination of webbing having a specific type of fiber weave and construction, and hardware having a specific design. Webbing of various colors may be included under the same model, but webbing of each color shall comply with the requirements for webbing in S4.2.

(k) *Installation instructions.* A seat belt assembly or retractor shall be accompanied by an instruction sheet providing sufficient information for installing the assembly in a motor vehicle except for a seat belt assembly installed in a motor vehicle by an automobile manufacturer. The installation instructions shall state whether

the assembly is for universal installation or for installation only in specifically stated motor vehicles, and shall include at least those items in SAE Recommended Practice, Motor Vehicle Seat Belt Installations—SAE J800b, published by the Society of Automotive Engineers.

(1) *Usage and maintenance instructions.* A seat belt assembly or retractor shall be accompanied by written instructions for the proper use of the assembly, stressing particularly the importance of wearing the assembly snugly and properly located on the body, and on the maintenance of the assembly and periodic inspection of all components. The instructions shall show the proper manner of threading webbing in the hardware of seat belt assemblies in which the webbing is not permanently fastened. Instructions for a nonlocking retractor shall include a caution that the webbing must be fully extended from the retractor during use of the seat belt assembly unless the retractor is attached to the free end of webbing which is not subjected to any tension during restraint of an occupant by the assembly. Instructions for Type 2a shoulder belt shall include a warning that the shoulder belt is not to be used without a lap belt.

(m) *Workmanship.* Seat belt assemblies shall have good workmanship in accordance with good commercial practice.

S4.2 Requirements for webbing.

(a) *Width.* The width of the webbing in a seat belt assembly shall be not less than 1.8 inches, except for portions that do not touch a 95th percentile adult male with the seat in any adjustment position and the seat back in the manufacturer's nominal design riding position when measured under the conditions prescribed in S5.1(a).

(b) *Breaking strength.* The webbing in a seat belt assembly shall have not less than the following breaking strength when tested by the procedures specified in S5.1(b): Type 1 seat belt assembly—6,000 pounds or 2,720 kilograms; Type 2 seat belt assembly—5,000 pounds or 2,270 kilograms for webbing pelvic restraint and 4,000 pounds or 1,810 kilograms for webbing in upper torso restraint.

(c) *Elongation.* The webbing in a seat belt assembly shall not extend to more than the following elongation when subjected to the specified forces in accordance with the procedure specified in S5.1(c): Type 1 seat belt assembly—20 percent at 2,500 pounds or 1,130 kilograms; Type 2 seat belt assembly—30 percent at 2,500 pounds or 1,130 kilograms for webbing in pelvic restraint and 40 percent at 2,500 pounds or 1,130 kilograms for webbing in upper torso restraint.

(d) *Resistance to abrasion.* The webbing of a seat belt assembly, after

being subjected to abrasion as specified in either S5.1(d) or S5.3(c), shall have a breaking strength of not less than 75 percent of the breaking strength listed in S4.2(b) for that type of belt assembly.

(e) *Resistance to light.* The webbing in a seat belt assembly after exposure to the light of a carbon arc and tested by the procedure specified in S5.1(e) shall have a breaking strength not less than 60 percent of the strength before exposure to the carbon arc and shall have a color retention not less than No. 2 on the Geometric Gray Scale published by the American Association of Textile Chemists and Colorists, Post Office Box 886, Durham, N.C.

(f) *Resistance to micro-organisms.* The webbing in a seat belt assembly after being subjected to micro-organisms and tested by the procedures specified in S5.1(f) shall have a breaking strength not less than 85 percent of the strength before subjection to micro-organisms.

(g) *Colorfastness to crocking.* The webbing in a seat belt assembly shall not transfer color to a crock cloth either wet or dry to a greater degree than Class 3 on the AATCC Chart for Measuring Transference of Color published by the American Association of Textile Chemists and Colorists, when tested by the procedure specified in S5.1(g).

(h) *Colorfastness to staining.* The webbing in a seat belt assembly shall not stain to a greater degree than Class 3 on the AATCC Chart for Measuring Transference of Color published by the American Association of Textile Chemists and Colorists, when tested by the procedure specified in S5.1(h).

S4.3 Requirements for hardware.

(a) *Corrosion resistance.* (1) Attachment hardware of a seat belt assembly after being subjected to the conditions specified in S5.2(a) shall be free of ferrous corrosion on significant surfaces except for permissible ferrous corrosion at peripheral edges or edges of holes on underfloor reinforcing plates and washers. Alternatively, such hardware at or near the floor shall be protected against corrosion by at least a Type KS electrodeposited coating of nickel, or copper and nickel, and other attachment hardware shall be protected by a Type QS electrodeposited coating of nickel or copper and nickel, in accordance with Tentative Specifications for Electrodeposited Coatings of Nickel and Chromium on Steel, ASTM Designation: A166-61T, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103, but such hardware shall not be racked for electroplating in locations subjected to maximum stresses.

(2) Surfaces of buckles, retractors and metallic parts, other than attach-

ment hardware, of a seat belt assembly after subsection to the conditions specified in S5.2(a) shall be free of ferrous or nonferrous corrosion which may be transferred, either directly or by means of the webbing, to the occupant or his clothing when the assembly is worn. After test, buckles shall conform to applicable requirements in paragraphs (d) to (g) of this section.

(b) *Temperature resistance.* Plastic or other nonmetallic hardware parts of a seat belt assembly when subjected to the conditions specified in S5.2(b) shall not warp or otherwise deteriorate to cause the assembly to operate improperly or fail to comply with applicable requirements in this section and S4.4.

(c) *Attachment hardware.* (1) Eye bolts, shoulder bolts, or other bolts used to secure the pelvic restraint of a seat belt assembly to a motor vehicle shall withstand a force of 9,000 pounds or 4,080 kilograms when tested by the procedure specified in S5.2(c)(1), except that attachment bolts of a seat belt assembly designed for installation in specific models of motor vehicles in which the ends of two or more seat belt assemblies can not be attached to the vehicle by a single bolt shall have a breaking strength of not less than 5,000 pounds or 2,270 kilograms.

(2) Other attachment hardware designed to receive the ends of two seat belt assemblies shall withstand a tensile force of at least 6,000 pounds or 2,720 kilograms without fracture of any section when tested by the procedure specified in S5.2(c)(2).

(3) A seat belt assembly having single attachment hooks of the quick-disconnect type for connecting webbing to an eye bolt shall be provided with a retaining latch or keeper which shall not move more than 0.08 inch or 2 millimeters in either the vertical or horizontal direction when tested by the procedure specified in S5.2(c)(3).

(d) *Buckle release.* (1) The buckle of a Type 1 or Type 2 seat belt assembly shall release when a force of not more than 30 pounds or 14 kilograms is applied and the buckle of a Type 3 seat belt assembly shall release when a force of not more than 20 pounds or 9 kilograms is applied as prescribed in S5.2.

(2) A buckle designed for pushbutton application of buckle release force shall have a minimum area of 0.7 square inch or 4.5 square centimeters with a minimum linear dimension of 0.4 inch or 10 millimeters for applying the release force, or a buckle designed for lever application of buckle release force shall permit the insertion of a cylinder 0.4 inch or 10 millimeters in diameter and 1.5 inches or 38 millimeters in length to at least the midpoint of the cylinder along the cylinder's entire length in the actuation portion of the buckle release. A buckle having

other design for release shall have adequate access for two or more fingers to actuate release.

(3) The buckle of a Type 1 or Type 2 seat belt assembly shall not release under a compressive force of 400 pounds applied as prescribed in paragraph S5.2(d)(3). The buckle shall be operable and shall meet the applicable requirement of paragraph S4.4 after the compressive force has been removed.

(e) *Adjustment force.* The force required to decrease the size of a seat belt assembly shall not exceed 11 pounds or 5 kilograms when measured by the procedure specified in S5.2(e).

(f) *Tilt-lock adjustment.* The buckle of a seat belt assembly having tilt-lock adjustment shall lock the webbing when tested by the procedure specified in S5.2(f) at an angle of not less than 30 degrees between the base of the buckle and the anchor webbing.

(g) *Buckle latch.* The buckle latch of a seat belt assembly when tested by the procedure specified in S5.2(g) shall not fail, nor gall or wear to an extent that normal latching and unlatching is impaired, and a metal-to-metal buckle shall separate when in any position of partial engagement by a force of not more than 5 pounds or 2.3 kilograms.

(h) *Nonlocking retractor.* The webbing of a seat belt assembly shall extend from a nonlocking retractor within 0.25 inch or 6 millimeters of maximum length when a tension is applied as prescribed in S5.2(h). A nonlocking retractor on upper torso restraint shall be attached to the nonadjustable end of the assembly, the reel of the retractor shall be easily visible to an occupant while wearing the assembly, and the maximum retraction force shall not exceed 1.1 pounds or 0.5 kilogram in any strap or webbing that contacts the shoulder when measured by the procedure specified in S5.2(h), unless the retractor is attached to the free end of webbing which is not subjected to any tension during restraint of an occupant by the assembly.

(i) *Automatic-locking retractor.* The webbing of a seat belt assembly equipped with an automatic locking retractor, when tested by the procedure specified in S5.2(i), shall not move more than 1 inch or 25 millimeters between locking positions of the retractor, and shall be retracted with a force under zero acceleration of not less than 0.6 pound or 0.27 kilogram when attached to pelvic restraint, and not less than 0.45 pound or 0.2 kilogram nor more than 1.1 pounds or 0.5 kilogram in any strap or webbing that contacts the shoulders of an occupant when the retractor is attached to upper torso restraint. An automatic locking retractor attached to upper torso restraint shall not increase the restraint on the occupant of the seat

belt assembly during use in a vehicle traveling over rough roads as prescribed in S5.2(i).

(j) *Emergency-locking retractor.* An emergency-locking retractor of a Type 1 or Type 2 seat belt assembly, when tested in accordance with the procedures specified in paragraph S5.2(j)—

(1) Shall lock before the webbing extends 1 inch when the retractor is subjected to an acceleration of 0.7g;

(2) Shall not lock, if the retractor is sensitive to webbing withdrawal, before the webbing extends 2 inches when the retractor is subjected to an acceleration of 0.3g or less;

(3) Shall not lock, if the retractor is sensitive to vehicle acceleration, when the retractor is rotated in any direction to any angle of 15° or less from its orientation in the vehicle;

(4) Shall exert a retractive force of at least 0.6 pound under zero acceleration when attached only to the pelvic restraint.

(5) Shall exert a retractive force of not less than 0.2 pound and not more than 1.1 pounds under zero acceleration when attached only to an upper torso restraint;

(6) Shall exert a retractive force of not less than 0.2 pound and not more than 1.5 pounds under zero acceleration when attached to a strap or webbing that restrains both the upper torso and the pelvis.

(k) *Performance of retractor.* A retractor used on a seat belt assembly after subsection to the tests specified in S5.2(k) shall comply with applicable requirements in paragraphs (h) to (j) of this section and S4.4, except that the retraction force shall be not less than 50 percent of its original retraction force.

S4.4 Requirements for assembly performance.

(a) *Type 1 seat belt assembly.* The complete seat belt assembly including webbing, straps, buckles, adjustment and attachment hardware, and retractors shall comply with the following requirements when tested by the procedures specified in C5.3(a):

(1) The assembly loop shall withstand a force of not less than 5,000 pounds or 2,270 kilograms; that is, each structural component of the assembly shall withstand a force or not less than 2,500 pounds or 1,130 kilograms.

(2) The assembly loop shall extend not more than 7 inches or 18 centimeters when subjected to a force of 5,000 pounds or 2,270 kilograms; that is, the length of the assembly between anchorages shall not increase more than 14 inches or 36 centimeters.

(3) Any webbing cut by the hardware during test shall have a breaking strength at the cut of not less than 4,200 pounds or 1,910 kilograms.

(4) Complete fracture through any solid section of metal attachment hardware shall not occur during test.

(b) *Type 2 seat belt assembly.* The components of a Type 2 seat belt assembly including webbing, straps, buckles, adjustment and attachment hardware, and retractors shall comply with the following requirements when tested by the procedure specified in S5.3(b):

(1) The structural components in the pelvic restraint shall withstand a force of not less than 2,500 pounds or 1,139 kilograms.

(2) The structural components in the upper torso restraint shall withstand a force of not less than 1,500 pounds or 680 kilograms.

(3) The structural components in the assembly that are common to pelvic and upper torso restraints shall withstand a force of not less than 3,000 pounds or 1,360 kilograms.

(4) The length of the pelvic restraint between anchorages shall not increase more than 20 inches or 50 centimeters when subjected to a force of 2,500 pounds or 1,130 kilograms.

(5) The length of the upper torso restraint between anchorages shall not increase more than 20 inches or 50 centimeters when subjected to a force of 1,500 pounds or 680 kilograms.

(6) Any webbing cut by the hardware during test shall have a breaking strength of not less than 3,500 pounds or 1,590 kilograms at a cut in webbing of the pelvic restraint, or not less than 2,800 pounds or 1,270 kilograms at a cut in webbing of the upper torso restraint.

(7) Complete fracture through any solid section of metal attachment hardware shall not occur during test.

S5 Demonstration Procedures.

S5.1 *Webbing.* (a) *Width.* The width of webbing from three seat belt assemblies shall be measured after conditioning for at least 24 hours in an atmosphere having relative humidity between 48 and 67 percent and a temperature of $23 \pm 2^\circ \text{C}$. or $73.4 \pm 3.6^\circ \text{F}$. The tension during measurement of width shall be not more than 5 pounds or 2 kilograms on webbing from a Type 1 seat belt assembly, and 2,200 \pm 100 pounds or 1,000 \pm 50 kilograms on webbing from a Type 2 seat belt assembly. The width of webbing from a Type 2 seat belt assembly may be measured during the breaking strength test described in paragraph (b) of this section.

(b) *Breaking strength.* Webbing from three seat belt assemblies shall be conditioned in accordance with paragraph (a) of this section and tested for breaking strength in a testing machine of suitable capacity verified to have an error or not more than 1 percent in the range of the breaking strength of the webbing by the Tentative Methods of Verification of Testing Machines, ASTM Designation: E4-64, published by the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103.

The machine shall be equipped with split drum grips illustrated in Figure 1, having a diameter between 2 and 4 inches or 5 and 10 centimeters. The rate of grip separation shall be between 2 and 4 inches per minute or 5 and 10 centimeters per minute. The distance between the centers of the grips at the start of the test shall be between 4 and 10 inches or 10 and 25 centimeters. After placing the specimen in the grips, the webbing shall be stretched continuously at a uniform rate to failure. Each value shall be not less than the applicable breaking strength requirement in S4.2(b), but the median value shall be used for determining the retention of breaking strength in paragraphs (d), (e), and (f) of this section.

(c) *Elongation.* Elongation shall be measured during the breaking strength test described in paragraph (b) of this section by the following procedure: A preload between 44 and 55 pounds or 20 and 25 kilograms shall be placed on the webbing mounted in the grips of the testing machine and the needle points of an extensometer, in which the points remain parallel during test, are inserted in the center of the specimen. Initially the points shall be set at a known distance apart between 4 and 8 inches or 10 and 20 centimeters. When the force on the webbing reaches the value specified in S4.2(c), the increase in separation of the points of the extensometer shall be measured and the percent elongation shall be calculated to the nearest 0.5 percent. Each value shall be not more than the appropriate elongation requirement in S4.2(c).

(d) *Resistance to abrasion.* The webbing from three seat belt assemblies shall be tested for resistance to abrasion by rubbing over the hexagon bar prescribed in Figure 2 in the following manner: The webbing shall be mounted in the apparatus shown schematically in Figure 2. One end of the webbing (A) shall be attached to a weight (B) which has a mass of 5.2 ± 0.1 pounds or 2.35 ± 0.05 kilograms. The webbing shall be passed over the two new abrading edges of the hexagon bar (C) and the other end attached to an oscillating drum (D) which has a stroke of 13 inches or 33 centimeters. Suitable guides shall be used to prevent movement of the webbing along the axis of hexagonal bar C. Drum D shall be oscillated for 5,000 strokes or 2,500 cycles at a rate of 60 ± 2 strokes per minute or 30 ± 1 cycles per minute. The abraded webbing shall be conditioned as prescribed in paragraph (a) of this section and tested for breaking strength by the procedure described in paragraph (b) of this section. The median values for the breaking strengths determined on abraded and unabraded specimens shall be used to calculate the percentage of breaking strength retained.

(e) *Resistance to light.* Webbing at least 20 inches or 50 centimeters in length from three seat belt assemblies shall be suspended vertically on the inside of the specimen rack in a Type E carbon-arc light-exposure apparatus described in recommended Practice for Operation of Light- and Water-Exposure Apparatus (Carbon-Arc Type) for Artificial Weathering Test, ASTM Designation: E42-64, published by the American Society for Testing and Materials. The apparatus shall be operated without water spray at an air temperature of $60 \pm 2^\circ \text{C}$. or $140 \pm 3.6^\circ \text{F}$. measured at a point 1 ± 0.2 inch or 25 ± 5 millimeters outside the specimen rack and midway in height. The temperature sensing element shall be shielded from radiation. The specimens shall be exposed to the light from the carbon arc for 100 hours and then conditioned as prescribed in paragraph (a) of this section. The colorfastness of the exposed and conditioned specimens shall be determined on the Geometric Gray Scale issued by the American Association of Textile Chemists and Colorists. The breaking strength of the specimens shall be determined by the procedure prescribed in paragraph (b) of this section. The median values for the breaking strengths determined on exposed and unexposed specimens shall be used to calculate the percentage of breaking strength retained.

(f) *Resistance to micro-organisms.* Webbing at least 20 inches or 50 centimeters in length from three seat belt assemblies shall be subjected successively to the procedures prescribed in Section 1C1—Water Leaching, Section 1C2—Volatilization, and Section 1B3—Soil Burial Test of AATCC Tentative Test Method 30—1957T, Fungicides, Evaluation of Textiles; Mildew and Rot Resistance of Textiles, published by American Association of Textile Chemists and Colorists. After soil-burial for a period of 2 weeks, the specimen shall be washed in water, dried and conditioned as prescribed in paragraph (a) of this section. The breaking strengths of the specimens shall be determined by the procedure prescribed in paragraph (b) of this section. The median values for the breaking strengths determined on exposed and unexposed specimens shall be used to calculate the percentage of breaking strength retained.

NOTE.—This test shall not be required on webbing made from material which is inherently resistant to micro-organisms.

(g) *Colorfastness to crocking.* Webbing from three seat belt assemblies shall be tested by the procedure specified in Standard Test Method 8—1961, Colorfastness to Crocking (Rubbing) published by the American Association of Textile Chemists and Colorists.

(h) *Colorfastness to staining.* Webbing from three seat belt assemblies shall be tested by the procedure specified in Standard Test Method 107—1962, Colorfastness to Water, published by the American Association of Textile Chemists and Colorists, with the following modifications: Distilled water shall be used, perspiration tester shall be used, the drying time in paragraph 4 of procedures shall be 4 hours, and section entitled "Evaluation Method for Staining (3)" shall be used to determine colorfastness to staining on the AATCC Chart for Measuring Transference of Colors.

S5.2 Hardware—(a) Corrosion resistance. Three seat belt assemblies shall be tested by Standard Method of Salt Spray (Fog) Testing, ASTM Designation: B 117-64, published by the American Society for Testing and Materials. The period of test shall be 50 hours for all attachment hardware at or near the floor, consisting of two periods of 24 hours exposure to salt spray followed by 1 hour drying and 25 hours for all other hardware, consisting of one period of 24 hours exposure to salt spray followed by 1 hour drying. In the salt spray test chamber, the parts from the three assemblies shall be oriented differently, selecting those orientations most likely to develop corrosion on the larger areas. At the end of test, the seat belt assembly shall be washed thoroughly with water to remove the salt. After drying for at least 24 hours under standard laboratory conditions specified in S5.1(a) attachment hardware shall be examined for ferrous corrosion on significant surfaces, that is, all surfaces that can be contacted by a sphere 0.75 inch or 2 centimeters in diameter, and other hardware shall be examined for ferrous and nonferrous corrosion which may be transferred, either directly or by means of the webbing, to a person or his clothing during use of a seat belt assembly incorporating the hardware.

NOTE.—When attachment and other hardware are permanently fastened, by sewing or other means, to the same piece of webbing, separate assemblies shall be used to test the two types of hardware. The test for corrosion resistance shall not be required for attachment hardware made from corrosion-resistant steel containing at least 11.5 percent chromium or for attachment hardware protected with an electrodeposited coating of nickel, or copper and nickel, as prescribed in S4.3(a). The assembly that has been used to test the corrosion resistance of the buckle shall be used to measure adjustment force, tilt-lock adjustment, and buckle latch in paragraphs (e), (f), and (g), respectively, of this section, assembly performance in S5.3 and buckle release force in paragraph (d) of this section.

(b) *Temperature resistance.* Three seat belt assemblies having plastic or nonmetallic hardware or having retractors shall be subjected to the con-

ditions prescribed in Procedure IV of Standard Methods of Test for Resistance of Plastics to Accelerated Service Conditions published by the American Society for Testing and Materials, under designation D 756-56. The dimension and weight measurement shall be omitted. Buckles shall be unlatched and retractors shall be fully retracted during conditioning. The hardware parts after conditioning shall be used for all applicable tests in S4.3 and S4.4.

(c) *Attachment hardware.* (1) Attachment bolts used to secure the pelvic restraint of a seat belt assembly to a motor vehicle shall be tested in a manner similar to that shown in Figure 3. The load shall be applied at an angle of 45° to the axis of the bolt through attachment hardware from the seat belt assembly, or through a special fixture which simulates the loading applied by the attachment hardware. The attachment hardware or simulated fixture shall be fastened by the bolt to the anchorage shown in Figure 3, which has a standard 1/8-20 UNF-2B or 1/2-13 UNC-2B threaded hole in a hardened steel plate at least 0.4 inch or 1 centimeter in thickness. The bolt shall be installed with two full threads exposed from the fully seated position. The appropriate force required by S4.3(c) shall be applied. A bolt from each of three seat belt assemblies shall be tested.

(2) Attachment hardware, other than bolts, designed to receive the ends of two seat belt assemblies shall be subjected to a tensile force of 6,000 pounds or 2,720 kilograms in a manner simulating use. The hardware shall be examined for fracture after the force is released. Attachment hardware from three seat belt assemblies shall be tested.

(3) Single attachment hook for connecting webbing to any eye bolt shall be tested in the following manner: The hook shall be held rigidly so that the retainer latch or keeper, with cotter pin or other locking device in place, is in a horizontal position as shown in Figure 4. A force of 150±2 pounds or 68±1 kilograms shall be applied vertically as near as possible to the free end of the retainer latch, and the movement of the latch by this force at the point of application shall be measured. The vertical force shall be released, and a force of 150±2 pounds or 68±1 kilograms shall be applied horizontally as near as possible to the free end of the retainer latch. The movement of the latch by this force at the point of load application shall be measured. Alternatively, the hook may be held in other positions, provided the forces are applied and the movements of the latch are measured at the points indicated in Figure 4. A single attachment hook from each of three seat belt assemblies shall be tested.

(d) *Buckle release.* (1) Three seatbelt assemblies shall be tested to determine compliance with the maximum buckle release force requirements, following the assembly test in S5.3. After subsection to the force applicable for the assembly being tested, the force shall be reduced and maintained at 150 pounds on the assembly loop of a Type 1 seatbelt assembly, 75 pounds on the components of a Type 2 seatbelt assembly. The buckle release force shall be measured by applying a force on the buckle in a manner and direction typical of those which would be employed by a seatbelt occupant. For pushbutton-release buckles, the force shall be applied at least 0.125 inch from the edge of the pushbutton access opening of the buckle in a direction that produces maximum releasing effect. For lever-release buckles, the force shall be applied on the centerline of the buckle level or finger tab in a direction that produces maximum releasing effect.

(2) The area for application of release force on pushbutton actuated buckle shall be measured to the nearest 0.05 square inch or 0.3 square centimeter. The cylinder specified in S4.3(d) shall be inserted in the actuation portion of a lever released buckle for determination of compliance with the requirement. A buckle with other release actuation shall be examined for access of release by fingers.

(3) The buckle of a Type 1 or Type 2 seatbelt assembly shall be subjected to a compressive force of 400 pounds applied anywhere on a test line that is coincident with the centerline of the belt extended through the buckle or on any line that extends over the center of the release mechanism and intersects the extended centerline of the belt at an angle of 60°. The load shall be applied by using a curved cylindrical bar having a cross section diameter of 0.75 inch and a radius of curvature of 6 inches, placed with its longitudinal centerline along the test line and its center directly above the point on the buckle to which the load will be applied. The buckle shall be latched, and a tensile force of 75 pounds shall be applied to the connected webbing during the application of the compressive force. Buckles from three seatbelt assemblies shall be tested to determine compliance with paragraph S4.3(d) (3).

(e) *Adjustment force.* Three seat belt assemblies shall be tested for adjustment force on the webbing at the buckle, or other manual adjusting device normally used to adjust the size of the assembly. With no load on the anchor end, the webbing shall be drawn through the adjusting device at a rate of 20±2 inches per minute or 50±5 centimeters per minute and the maximum force shall be measured to

the nearest 0.25 pound or 0.1 kilogram after the first 1 inch or 25 millimeters of webbing movement. The webbing shall be precycled 10 times prior to measurement.

(f) *Tilt-lock adjustment.* This test shall be made on buckles or other manual adjusting devices having tilt-lock adjustment normally used to adjust the size of the assembly. Three buckles or devices shall be tested. The base of the adjustment mechanism and the anchor end of the webbing shall be oriented in planes normal to each other. The webbing shall be drawn through the adjustment mechanism in a direction to increase belt length at a rate of 20 ± 2 inches per minute or 50 ± 5 centimeters per minute while the plane of the base is slowly rotated in a direction to lock the webbing. Rotation shall be stopped when the webbing locks, but the pull on the webbing shall be continued until there is a resistance of at least 20 pounds or 9 kilograms. The locking angle between the anchor end of the webbing and the base of the adjustment mechanism shall be measured to the nearest degree. The webbing shall be precycled 10 times prior to measurement.

(g) *Buckle latch.* The buckles from three seat belt assemblies shall be opened fully and closed at least 10 times. Then the buckles shall be clamped or firmly held against a flat surface so to permit normal movement of buckle part, but with the metal mating plate (metal-to-metal buckles) or webbing and (metal-to-webbing buckles) withdrawn from the buckle. The release mechanism shall be moved 200 times through the maximum possible travel against its stop with a force of 30 ± 3 pounds or 14 ± 1 kilograms at a rate not to exceed 30 cycles per minute. The buckle shall be examined to determine compliance with the performance requirements of S4.3(g). A metal-to-metal buckle shall be examined to determine whether partial engagement is possible by means of any technique representative of actual use. If partial engagement is possible, the maximum force of separation when in such partial engagement shall be determined.

(h) *Nonlocking retractor.* After the retractor is cycled 10 times by full extension and retraction of the webbing, the retractor and webbing shall be suspended vertically and a force of 4 pounds or 1.8 kilograms shall be applied to extend the webbing from the retractor. The force shall be reduced to 3 pounds or 1.4 kilograms when attached to a pelvic restraint, or to 1.1 pounds or 0.5 kilogram per strap or webbing that contacts the shoulder of an occupant when retractor is attached to an upper torso restraint. The residual extension of the webbing shall be measured by manual rotation

of the retractor drum or by disengaging the retraction mechanism. Measurements shall be made on three retractors. The location of the retractor attached to upper torso restraint shall be examined for visibility of reel during use of seat belt assembly in a vehicle.

NOTE: This test shall not be required on a nonlocking retractor attached to the free end of webbing which is not subjected to any tension during restraint of an occupant by the assembly.

(i) *Automatic-locking retractor.* Three retractors shall be tested in a manner to permit the retraction force to be determined exclusive of the gravitational forces on hardware or webbing being retracted. The webbing shall be fully extended from the retractor. While the webbing is being retracted, the average force or retraction within plus or minus 2 inches or 5 centimeters of 75 percent extension (25 percent retraction) shall be determined and the webbing movement between adjacent locking segments shall be measured in the same region of extension. A seat belt assembly with automatic locking retractor in upper torso restraint shall be tested in a vehicle in a manner prescribed by the installation and usage instructions. The retraction force on the occupant of the seat belt assembly shall be determined before and after traveling for 10 minutes at a speed of 15 miles per hour or 24 kilometers per hour or more over a rough road (e.g., Belgian block road) where the occupant is subjected to displacement with respect to the vehicle in both horizontal and vertical directions. Measurements shall be made with the vehicle stopped and the occupant in the normal seated position.

(j) *Emergency-locking retractor.* A retractor shall be tested in a manner that permits the retraction force to be determined exclusive of the gravitational forces on hardware or webbing being retracted. The webbing shall be fully extended from the retractor, passing over or through any hardware or other material specified in the installation instructions. While the webbing is being retracted, the lowest force of retraction within plus or minus 2 inches of 75 percent extension shall be determined. A retractor that is sensitive to webbing withdrawal shall be subjected to an acceleration of 0.3g within a period of 50 ms. while the webbing is at 75 percent extension, to determine compliance with S4.3(j)(2). The retractor shall be subjected to an acceleration of 0.7g within a period of 50 milliseconds, while the webbing is at 75 percent extension, and the webbing movement before locking shall be measured under the following conditions: For a retractor sensitive to webbing withdrawal, the retractor shall be accelerated in the di-

rection of webbing retraction while the retractor drum's central axis is oriented horizontally and at angles of 45°, 90°, 135°, and 180° to the horizontal plane. For a retractor sensitive to vehicle acceleration, the retractor shall be—

(1) Accelerated in the horizontal plane in two directions normal to each other, while the retractor drum's central axis is oriented at the angle at which it is installed in the vehicle; and,

(2) Accelerated in three directions normal to each other while the retractor drum's central axis is oriented at angles of 45°, 90°, 135°, and 180° from the angle at which it is installed in the vehicle, unless the retractor locks by gravitational force when tilted in any direction to any angle greater than 45° from the angle at which it is installed in the vehicle.

(k) *Performance of retractor.* After completion of the corrosion-resistance test described in paragraph (a) of this section, the webbing shall be fully extended and allowed to dry for at least 24 hours under standard laboratory conditions specified in S5.1(a). The retractor shall be examined for ferrous and non-ferrous corrosion which may be transferred, either directly or by means of the wedding, to a person or his clothing during use of a seat belt assembly incorporating the retractor, and for ferrous corrosion on significant surfaces if the retractor is part of the attachment hardware. The webbing shall be withdrawn manually and allowed to retract for 25 cycles. The retractor shall be mounted in an apparatus capable of extending the webbing fully, applying a force of 20 pounds or 9 kilograms at full extension, and allowing the webbing to retract freely and completely. The webbing shall be withdrawn from the retractor and allowed to retract repeatedly in this apparatus until 2,500 cycles are completed. The retractor and webbing shall then be subjected to the temperature resistance test prescribed in paragraph (b) of this section. The retractor shall be subjected to 2,500 additional cycles of webbing withdrawal and retraction. Then, the retractor and webbing shall be subjected to dust in a chamber similar to one illustrated in Figure 8 containing about 2 pounds or 0.9 kilogram of coarse grade dust conforming to the specification given in SAE Recommended Practice, Air Cleaner Test Code—SAE J726a, published by the Society of Automotive Engineers. The dust shall be agitated every 20 minutes for 5 seconds by compressed air, free of oil and moisture, at a gage pressure of 80 ± 8 pounds per square inch or 5.6 ± 0.6 kilograms per square centimeter entering through an orifice 0.060 ± 0.004 inch or 1.5 ± 0.1 millimeters in diameter. The webbing shall be

extended to the top of the chamber and kept extended at all times except that the webbing shall be subjected to 10 cycles of complete retraction and extension within 1 to 2 minutes after each agitation of the dust. At the end of 5 hours, the assembly shall be removed from the chamber. The webbing shall be fully withdrawn from the retractor manually and allowed to retract completely for 25 cycles. An automatic-locking retractor or a nonlocking retractor attached to pelvic restraint shall be subjected to 5,000 additional cycles of webbing withdrawal and retraction. An emergency-locking retractor or a nonlocking retractor attached to upper torso restraint shall be subjected to 45,000 additional cycles of webbing withdrawal and retraction between 50 and 100 percent extension. The locking mechanism of an emergency locking retractor shall be actuated at least 10,000 times within 50 to 100 percent extension of webbing during the 50,000 cycles. At the end of test, compliance of the retractors with applicable requirements in S4.3 (h), (i), and (j) shall be determined. Three retractors shall be tested for performance.

S5.3 Assembly Performance—(a) Type 1 seat belt assembly. Three complete seat belt assemblies, including webbing, straps, buckles, adjustment and attachment hardware, and retractors, arranged in the form of a loop as shown in Figure 5, shall be tested in the following manner:

(1) The testing machine shall conform to the requirements specified in S5.1(b). A double-roller block shall be attached to one head of the testing machine. This block shall consist of two rollers 4 inches or 10 centimeters in diameter and sufficiently long so that no part of the seat belt assembly touches parts of the block other than the rollers during test. The rollers shall be mounted on antifriction bearings and spaced 12 inches or 30 centimeters between centers, and shall have sufficient capacity so that there is no brinelling, bending or other distortion of parts which may affect the results. An anchorage bar shall be fastened to the other head of the testing machine.

(2) The attachment hardware furnished with the seat belt assembly shall be attached to the anchorage bar. The anchor points shall be spaced so that the webbing is parallel in the two sides of the loop. The attaching bolts shall be parallel to, or at an angle of 45° or 90° to the webbing, whichever results in an angle nearest to 90° between webbing and attachment hardware except that eye bolts shall be vertical, and attaching bolts or nonthreaded anchorages of a seat belt assembly designed for use in spe-

cific models of motor vehicles shall be installed to produce the maximum angle in use indicated by the installation instructions, utilizing special fixtures if necessary to simulate installation in the motor vehicle. Rigid adapters between anchorage bar and attachment hardware shall be used if necessary to locate and orient the adjustment hardware. The adapters shall have a flat support face perpendicular to the threaded hole for the attaching bolt and adequate in area to provide full support for the base of the attachment hardware connected to the webbing. If necessary, a washer shall be used under a swivel plate or other attachment hardware to prevent the webbing from being damaged as the attaching bolt is tightened.

(3) The length of the assembly loop from attaching bolt to attaching bolt shall be adjusted to about 51 inches or 130 centimeters, or as near thereto as possible. A force of 55 pounds or 25 kilograms shall be applied to the loop to remove any slack in webbing at hardware. The force shall be removed and the heads of the testing machine shall be adjusted for an assembly loop between 48 and 50 inches or 122 and 127 centimeters in length. The length of the assembly loop shall then be adjusted by applying a force between 20 and 22 pounds or 9 and 10 kilograms to the free end of the webbing at the buckle, or by the retraction force of an automatic-locking or emergency-locking retractor. A seat belt assembly that cannot be adjusted to this length shall be adjusted as closely as possible. An automatic-locking or emergency-locking retractor when included in a seat belt assembly shall be locked at the start of the test with a tension on the webbing slightly in excess of the retractive force in order to keep the retractor locked. The buckle shall be in a location so that it does not touch the rollers during test, but to facilitate making the buckle release test in S5.2(d) the buckle should be between the rollers or near a roller in one leg.

(4) The heads of the testing machine shall be separated at a rate between 2 and 4 inches per minute or 5 and 10 centimeters per minute until a force of 5,000±50 pounds or 2,270±20 kilograms is applied to the assembly loop. The extension of the loop shall be determined from measurements of head separation before and after the force is applied. The force shall be decreased to 150±10 pounds or 68±4 kilograms and the buckle release force measured as prescribed in S5.2(d).

(5) After the buckle is released, the webbing shall be examined for cutting by the hardware. If the yarns are partially or completely severed in a line for a distance of 10 percent or more of the webbing width, the cut webbing

shall be tested for breaking strength as specified in S5.1(b) locating the cut in the free length between grips. If there is insufficient webbing on either side of the cut to make such a test for breaking strength, another seat belt assembly shall be used with the webbing repositioned in the hardware. A tensile force of 2,500±25 pounds or 1,135±10 kilograms shall be applied to the components or a force of 5,000±50 pounds or 2,270±20 kilograms shall be applied to an assembly loop. After the force is removed, the breaking strength of the cut webbing shall be determined as prescribed above.

(6) If a Type 1 seat belt assembly includes an automatic-locking retractor or an emergency-locking retractor, the webbing and retractor shall be subjected to a tensile force of 2,500±25 pounds or 1,135±10 kilograms with the webbing fully extended from the retractor.

(7) If a seat belt assembly has a buckle in which the tongue is capable of inverted insertion, one of the three assemblies shall be tested with the tongue inverted.

(b) **Type 2 seat belt assembly.** Components of three seat belt assemblies shall be tested in the following manner:

(1) The pelvic restraint between anchorages shall be adjusted to a length between 48 and 50 inches or 122 and 127 centimeters, or as near this length as possible if the design of the pelvic restraint does not permit its adjustment to this length. An automatic-locking or emergency-locking retractor when included in a seat belt assembly shall be locked at the start of the test with a tension on the webbing slightly in excess of the retractive force in order to keep the retractor locked. The attachment hardware shall be oriented to the webbing as specified in paragraph (a)(2) of this section and illustrated in Figure 5. A tensile force of 2,500±25 pounds or 1,135±10 kilograms shall be applied on the components in any convenient manner and the extension between anchorages under this force shall be measured. The force shall be reduced to 75±5 pounds or 34±2 kilograms and the buckle release force measured as prescribed in S5.2(d).

(2) The components of the upper torso restraint shall be subjected to a tensile force of 1,500±15 pounds or 680±5 kilograms following the procedure prescribed above for testing pelvic restraint and the extension between anchorages under this force shall be measured. If the testing apparatus permits, the pelvic and upper torso restraints may be tested simultaneously. The force shall be reduced to 75±5 pounds or 34±2 kilograms and

the buckle release force measured as prescribed in S5.2(d).

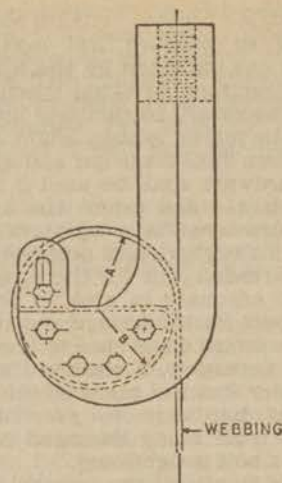
(3) Any component of the seat belt assembly common to both pelvic and upper torso restraint shall be subjected to a tensile force of $3,000 \pm 30$ pounds or $1,360 \pm 15$ kilograms.

(4) After the buckle is released in tests of pelvic and upper torso restraints, the webbing shall be examined for cutting by the hardware. If the yarns are partially or completely severed in a line for a distance of 10 percent or more of the webbing width, the cut webbing shall be tested for breaking strength as specified in S5.1(b) locating the cut in the free length between grips. If there is insufficient webbing on either side of the cut to make such a test for breaking strength, another seat belt assembly shall be used with the webbing repositioned in the hardware. The force applied shall be $2,500 \pm 25$ pounds or $1,135 \pm 10$ kilograms for components of pelvic restraint, and $1,500 \pm 15$ pounds or 680 ± 5 kilograms for components of upper torso restraint. After the force is removed, the breaking strength of the cut webbing shall be determined as prescribed above.

(5) If a Type 2 seat belt assembly includes an automatic-locking retractor or an emergency-locking retractor, the webbing and retractor shall be subjected to a tensile force of $2,500 \pm 25$ pounds or $1,135 \pm 10$ kilograms with the webbing fully extended from the retractor, or to a tensile force of $1,500 \pm 15$ pounds or 680 ± 5 kilograms with the webbing fully extended from the retractor if the design of the assembly permits only upper torso restraint forces on the retractor.

(6) If a seat belt assembly has a buckle in which the tongue is capable of inverted insertion, one of the three assemblies shall be tested with the tongue inverted.

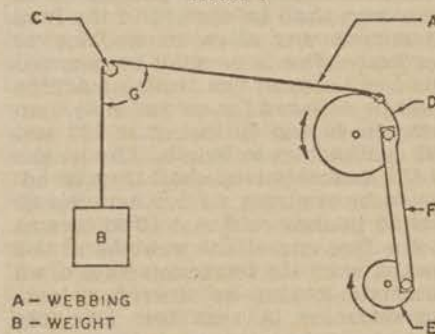
(d) *Resistance to buckle abrasion.* Seatbelt assemblies shall be tested for resistance to abrasion by each buckle or manual adjusting device normally used to adjust the size of the assembly. The webbing of the assembly to be used in this test shall be exposed for 4 hours to an atmosphere having relative humidity of 65 percent and temperature of 70° F. The webbing shall be pulled back and forth through the buckle or manual adjusting device as shown schematically in Figure 9. The anchor end of the webbing (A) shall be attached to a weight (B) of 3 pounds. The webbing shall pass through the buckle (C), and the other end (D) shall be attached to a reciprocating device so that the webbing forms an angle of 8° with the hinge stop (E). The reciprocating device shall be operated for 2,500 cycles at a rate of 18 cycles per minute with a stroke length of 8 inches. The abraded webbing shall be tested for breaking strength by the procedure described in paragraph S5.1(b).



A 1 TO 2 INCHES OR 2.5 TO 5 CENTIMETERS

B A MINUS 0.06 INCH OR 0.15 CENTIMETER

FIGURE 1



A—WEBBING

B—WEIGHT

C—HEXAGONAL ROD
STEEL—SAE 51416
ROCKWELL HARDNESS—B-97 TO B-101
SURFACE—COLD DRAWN FINISH
SIZE— 0.250 ± 0.001 INCH OR
 6.35 ± 0.03 MILLIMETER
RADIUS ON EDGES— 0.020 ± 0.004 INCH OR
 0.5 ± 0.1 MILLIMETER

D—DRUM DIAMETER—16 INCHES OR
40 CENTIMETERS

E—CRANK

F—CRANK ARM

G—ANGLE BETWEEN WEBBING— 85 ± 2 DEGS.

FIGURE 2

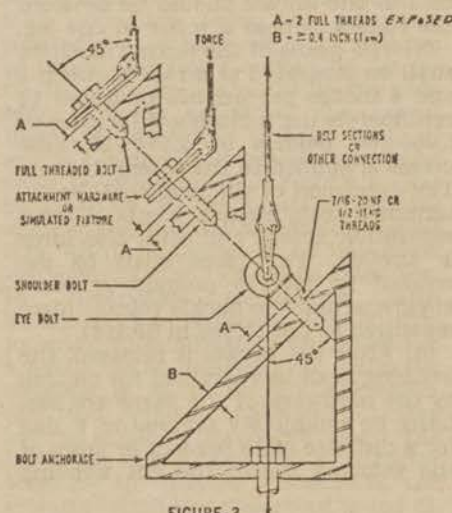


FIGURE 3

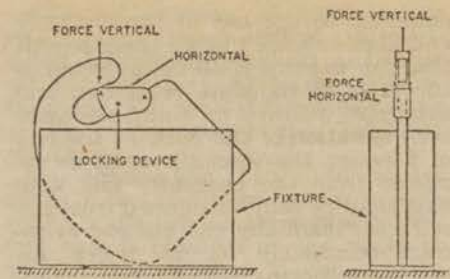


FIGURE 4

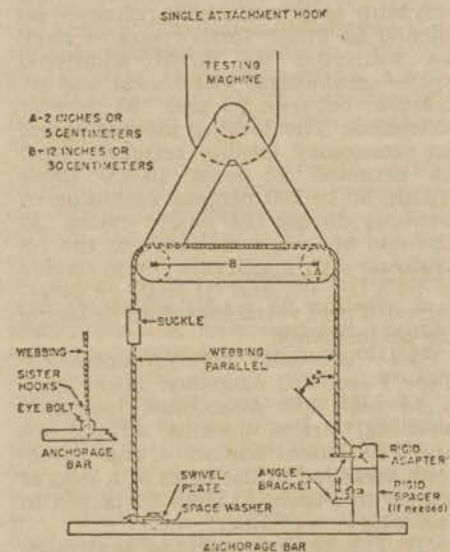
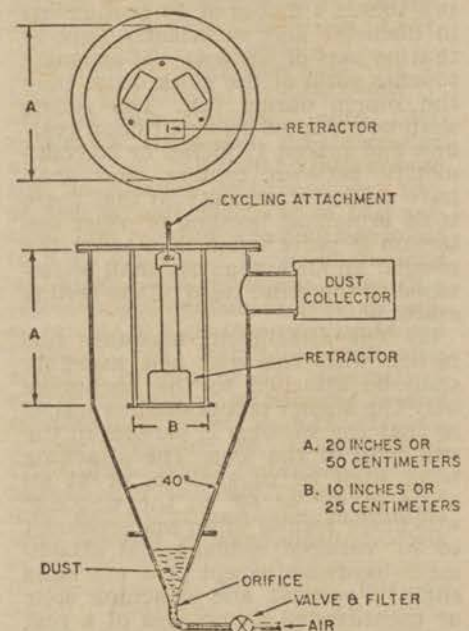


FIGURE 5



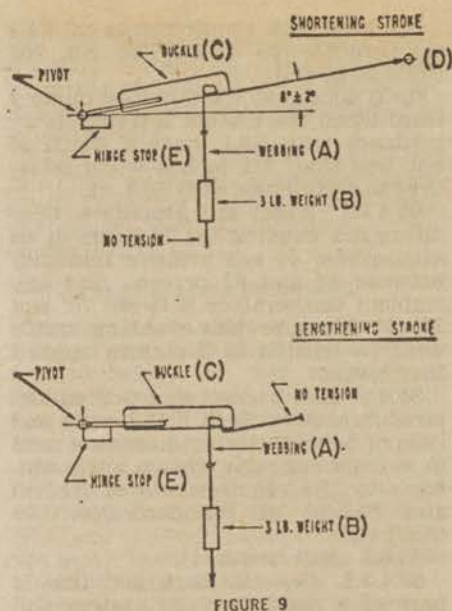


FIGURE 9

§ 571.213 [Amended]

2. Section S4 of Standard No 213, Child Seating Systems (49 CFR 571.213), would be amended to read as follows:

S4. *Requirements.* Each child seating system manufacturer before May 1, 1980, shall meet, at the option of the manufacturer, either the requirements of S4.1 through S4.11 of this standard, or the requirements of § 571.213-80 of this part (Standard No. 213-80).

3. A new Federal Motor Vehicle Safety Standard No. 213-80, Child Restraint Systems, would be added to read as set forth below.

§ 571.213-80 Standard No. 213-80; child restraint systems.

S1. *Scope.* This standard specifies requirements for child restraint systems used in motor vehicles.

S2. *Purpose.* The purpose of this standard is to reduce the number of children killed or injured in motor vehicle crashes.

S3. *Application.* This standard applies to child restraint systems for use in motor vehicles.

S4. *Definitions.*

"Car bed" means a child restraint system designed to restrain or position a child in the supine or prone position on a continuous flat surface.

"Child restraint system" means any device, except Type I or Type II seat belts, designed for use in a motor vehicle to restrain, seat, or position chil-

dren who weigh not more than 50 pounds.

"Contactable surface" means any child restraint system surface (other than that of a belt, belt buckle, or belt adjustment hardware) that may contact any part of the head or torso of the appropriate test dummy, specified in S7, when a child restraint system is tested in accordance with S6.1.

"Seat orientation reference line" or "SORL" means the horizontal line through Point Z as illustrated in Figure 1A.

S5. *Requirements.* Each child restraint system shall meet the requirements in this section when, as specified, tested in accordance with S6.1.

S5.1 *Dynamic performance.*

S5.1.1 *Child restraint system integrity.* When tested in accordance with S6.1, each child restraint system shall:

(a) Exhibit no complete separation of any load bearing structural element and no partial separation exposing either surfaces with a radius of less than ¼ inch or surfaces with protrusions greater than ¼ inch above the immediate adjacent surrounding contactable surface of any structural element of the system;

(b) If adjustable to different positions, remain in the same adjustment position during the testing as it was immediately before the testing; and

(c) If a front facing child restraint system, not allow the angle between the system's back support surfaces for the child and the system's seating surface to be less than 45 degrees at the completion of the test.

S5.1.2 *Injury criteria.* When tested in accordance with S6.1, each child restraint system that, in accordance with S5.5.2(f), is recommended for use by children weighing more than 20 pounds, shall—

(a) Limit the resultant acceleration at the location of the accelerometer mounted in the test dummy head as specified in Part 572 such that the expression:

$$\left[\frac{1}{t_2 - t_1} \int_{t_1}^{t_2} a dt \right]^{2.5} (t_2 - t_1)$$

shall not exceed 1,000, where a is the resultant acceleration expressed as a multiple of g (the acceleration of gravity), and t_1 and t_2 are any two moments during the impacts.

(b) Limit the resultant acceleration at the location of the accelerometer mounted in the test dummy upper

thorax as specified in Part 572 to not more than 60 g 's, except for intervals whose cumulative duration is not more than 3 milliseconds.

S5.1.3 *Occupant excursion.* When tested in accordance with S6.1 and adjusted in any position which the manufacturer has not, in accordance with S5.5.2(i), specifically warned against using in motor vehicles, each child restraint system shall meet the applicable excursion limit requirements specified in S5.1.3.1-S5.1.3.3.

S5.1.3.1 *Child restraint systems other than rear-facing ones and car beds.* In the case of each child restraint system other than a rear-facing child restraint system or a car bed, the test dummy's torso shall be retained within the system and no portion of the test dummy's head nor of either knee pivot point shall pass through the vertical transverse plane that is 30 inches forward of point Z on the standard seat assembly, measured along the center SORL (as illustrated in Figure 1B).

S5.1.3.2 *Rear-facing child restraint systems.* In the case of rear-facing child restraint system, all portions of the test dummy's torso shall be retained within the system and no portion of the target point on either side of the dummy's head shall pass through the vertical transverse or horizontal planes which contain, respectively, the forward-most and top-most points on the child restraint system surfaces (illustrated in Figure 1C).

S5.1.3.3 *Car beds.* In the case of car beds, all portions of the test dummy's head and torso shall be retained within the confines of the car bed.

S5.1.4 *Back support angle.* When a rear-facing child restraint system is tested in accordance with S6.1, the angle between the system's back support surface for the child and the vertical shall not exceed 60 degrees.

S5.2 *Force distribution.*

S5.2.1 *Minimum head support surface—child restraints other than car beds.*

S5.2.1.1 Except as provided in S5.2.1.2, each child restraint system other than a car bed shall provide restraint against rearward movement of the head of the child (rearward in relation to the child) by means of a continuous seat back which is an integral part of the system and which—

(a) Has a height, measured along the system seat back surface for the child in the vertical longitudinal plane passing through the longitudinal centerline of the child restraint systems from the lowest point on the system

seating surface that is contacted by the buttocks of the seated dummy, as follows:

Weight ¹ (in pounds)	Height ² (in inches)
Less than 20 lb.....	18
20 lb or more, but not more than 40 lb....	20
More than 40 lb.....	22

¹When a child restraint system is recommended under S5.5(f) for use by children of the above weights.

²The height of the portion of the system seat back providing head restraint shall not be less than the above.

(b) Has a width of not less than 8 inches, measured in the horizontal plane at the height specified in paragraph (a) of this section.

(c) Limits the rearward rotation of the test dummy head so that the angle between the head and torso of the dummy specified in S7 when tested in accordance with S6.1 is not more than 45 degrees greater than the angle between the head and torso after the dummy has been placed in the system in accordance with S6.1.2.3 and before the system is tested in accordance with S6.1.

S5.2.1.2 A front-facing child restraint system is not required to comply with S5.2.1.1 if the target point on either side of the dummy's head is below a horizontal plane tangent to the top of the standard seat assembly when the dummy is positioned in the system and the system is installed on the assembly in accordance with S6.1.2.

S5.2.2 *Torso impact protection.* Each child restraint system other than a car bed shall comply with the applicable requirements of S5.2.2.1 and S5.2.2.2.

S5.2.2.1(a) The system surface provided for the support of the child's back shall be flat or concave and have a continuous surface area of not less than 85 square inches.

(b) Each system surface provided for support of the side of the child's torso shall be flat or concave and have a continuous surface of not less than 24 square inches for systems recommended for children weighing 20 pounds or more, or 48 square inches for systems recommended for children weighing less than 20 pounds.

(c) Each horizontal cross section of each system surface designed to restrain forward movement of the child's torso shall be flat or concave and each vertical longitudinal cross section shall be flat or convex with a radius of curvature of not less than 3 inches.

S5.2.2.2 Each forward facing child restraint system shall have no fixed or movable surface directly forward of the dummy and intersected by a horizontal line parallel to the SORL and passing through any portion of the dummy, except for surfaces designed

to restrain the dummy when the system is tested in accordance with S6.1.

S5.2.3 *Head impact protection.*

S5.2.3.1 Each child restraint system, other than a child harness, which is recommended under S5.5.2(f) for children weighing less than 20 pounds shall comply with S5.2.3.2.

S5.2.3.2 Each system surface which is contactable by the dummy head when the system is tested in accordance with S6.1 shall be covered with slow recovery, energy absorbing material with the following characteristics:

(a) A thickness of not less than $\frac{1}{4}$ inch; and

(b) A 25 percent compression-deflection resistance of not less than 5 and not more than 9 pounds per square inch when tested in accordance with S6.3.

S5.2.4 *Protrusion limitation.* Any portion of a rigid structural component within or underlying a contactable surface, or any portion of a child restraint system surface that is subject to the requirements of S5.2.3 shall, with any padding or other flexible overlay material removed, have a height above any immediately adjacent restraint system surface of not more than $\frac{1}{4}$ inch and no exposed edge with a radius of less than $\frac{1}{4}$ inch.

S5.3 *Installation.*

S5.3.1 Each child restraint system shall have no means designed for attaching the system to a vehicle seat cushion or vehicle seat back and no component (except belts) that is designed to be inserted between the vehicle seat cushion and vehicle seat back.

S5.3.2 When installed on a vehicle seat, each child restraint system, other than child harnesses, shall be capable of being restrained against forward movement solely by means of a Type I seat belt assembly (defined in S571.209) that meets Standard No. 208 (S571.208), or by means of a Type I seat belt assembly plus one additional anchorage strap that is supplied with the system and conforms to S5.4.

S5.3.3 *Car beds.* Each car bed shall be designed to be installed on a vehicle seat so that the car bed's longitudinal axis is perpendicular to a vertical longitudinal plane through the longitudinal axis of the vehicle.

S5.4 *Belts, belt buckles, and belt webbing.*

S5.4.1 *Performance requirements.* The webbing of belts provided with a child restraint system and used to attach the system to the vehicle or to restrain the child within the system shall—

(a) After being subjected to abrasion as specified in S5.1(d) or S5.3(c) of FMVSS No. 209 (S571.209), have a breaking strength of not less than 75 percent of the strength of the unbraided webbing when tested in accordance with S5.1(b) of FMVSS No. 209.

(b) Meet the requirements of S4.2 (e) through (h) of FMVSS No. 209 (S571.209); and

(c) If contactable by the test dummy torso when the system is tested in accordance with S6.1, have a width of not less than $1\frac{1}{2}$ inches when measured in accordance with S5.4.1.1.

S5.4.1.1 *Width test procedure.* Condition the webbing for 24 hours in an atmosphere of any relative humidity between 48 and 67 percent, and any ambient temperature between 70° and 77° F. Measure belt webbing width under a tension of 5 pounds applied lengthwise.

S5.4.2 *Belt buckles and belt adjustment hardware.* Each belt buckle and item of belt adjustment hardware used in a child restraint system shall conform to the requirements of S4.3(a) and S4.3(b) of Standard No. 209 (S571.209).

S5.4.3 *Belt Restraint.*

S5.4.3.1 *General.* Each belt that is part of a child restraint system and that is designed to restrain a child using the system shall be adjustable to snugly fit any child whose height and weight are within the ranges recommended in accordance with S5.5.2(f) and who is positioned in the system in accordance with the instructions required by S5.6.

S5.4.3.2 *Direct restraint.* Each belt that is part of a child restraint system and that is designed to restrain a child using the system and to attach the system to the vehicle shall, when tested in accordance with S6.1, impose no loads on the child that result from the mass of the system or the mass of the seat back of the standard seat assembly specified in S7.3.

S5.4.3.3 *Seating systems.* Except for child restraint systems subject to S5.4.3.4, each child restraint system that is designed for use by a child in a seated position and that has belts designed to restrain the child shall, with the test dummy specified in S7 positioned in the system in accordance with S6.1.2.3, provide:

(a) Upper torso restraint, including belts passing over each shoulder of the child;

(b) Lower torso restraint in the form of a lap belt assembly making an angle between 45° and 90° with the child restraint seating surface at the lap belt attachment points;

(c) In the case of each seating system recommended for children over 20 pounds, a crotch strap connectable to the lap belt.

S5.4.3.4 *Harnesses.* Each child harness shall:

(a) Provide upper torso restraint, including belts passing over each shoulder of the child;

(b) Provide lower torso restraint by means of lap and crotch belt; and

(c) Prevent a child of any height for which the restraint is recommended

for use pursuant to S5.5.2(f) from standing upright on the vehicle seat when the child is placed in the device in accordance with the instructions required by S5.6.

S5.4.3.5 Buckle Release. Any buckle in a child restraint system belt assembly designed to restrain a child using the system shall, when tested in accordance with S6.2—

ALTERNATIVE PROPOSALS

Proposal A. (a) Not release when a force of not more than 12 pounds is applied before the test specified in S6.1, and (b) Release when a force of not more than 20 pounds is applied after the test specified in S6.1.

Proposal B. (a) Not release when a force of not more than 2.25 pounds is applied before the test specified in S6.1, and (b) Release when a force of not more than 13.5 pounds is applied after the test specified in S6.1.

Proposal C. Release when a force of not more than 20 pounds is applied before and after the test specified in S6.1.

S5.5 Labeling.

S5.5.1 Each child restraint system shall be permanently labeled with the information specified in S5.5.2 (a) through (k).

S5.5.2 The information specified in paragraphs (a)–(k) of this section shall be stated in the English language and lettered in block letters and numbers that are not less than 1/8 inch high and are on a contrasting background.

(a) The model name or number of the system.

(b) The manufacturer's name. A distributor's name may be used instead if the distributor assumes responsibility for all duties and liabilities imposed on the manufacturer with respect to the system by the National Traffic and Motor Vehicle Safety Act, as amended.

(c) The statement: "Manufactured in —," inserting the month and year of manufacture.

(d) The place of manufacture (city and State, or foreign country). However, if the manufacturer uses the name of the distributor, then it shall state the location (city and State, or foreign country) of the principal offices of the distributor.

(e) The statement: "This child restraint system conforms to all applicable Federal motor vehicle safety standards."

(f) The following statement, inserting the manufacturer's recommendations for the maximum weight and height of children who can safely occupy the system:

THIS CHILD RESTRAINT IS DESIGNED FOR USE ONLY BY CHILDREN WHO WEIGH BETWEEN — AND — POUNDS AND ARE BETWEEN — AND — INCHES IN HEIGHT.

(g) The statement:

TO PROTECT YOUR CHILD IN A CRASH, THIS RESTRAINT MUST BE SECURED TO THE VEHICLE WITH A VEHICLE BELT AS SPECIFIED IN THE MANUFACTURER'S INSTRUCTIONS.

(h) In the case of each child restraint system that has belts designed to restrain children using them:

WARNING: TO PROTECT YOUR CHILD, USE AND SNUGLY ADJUST THE BELTS PROVIDED WITH THIS RESTRAINT TO RESTRAIN YOUR CHILD.

(i) In the case of each child restraint system which is not intended for use in motor vehicles at certain attitude or adjustment positions, the following statement, inserting the manufacturer's attitude or adjustment restrictions:

WARNING: TO PROTECT YOUR CHILD IN A CRASH, DO NOT USE THE — ADJUSTMENT POSITION(S) OF THIS CHILD RESTRAINT IN A MOTOR VEHICLE.

(j) In the case of each child restraint system equipped with an anchorage strap, the statement:

WARNING: TO SAFELY RESTRAIN YOUR CHILD, THE ANCHORAGE BELT PROVIDED WITH THIS CHILD RESTRAINT MUST BE SECURED AS SPECIFIED IN THE MANUFACTURER'S INSTRUCTIONS.

(k) An installation diagram showing the child restraint system installed in a vehicle as specified in the manufacturer's instructions.

S5.5.3 The information specified in S5.5.2 (f)–(j) shall be located on the child restraint system so that it is visible when the system is installed as specified in S5.6.

S5.6 Installation instructions. Each child restraint system shall be accompanied by printed instructions in the English language that provide a step-by-step procedure, including diagrams, for installing the system in motor vehicles, securing the system in the vehicles, positioning a child in the system, and adjusting the system to fit the child.

S5.6.1 The instructions shall state that the rear center seating position is the safest seating position in most vehicles for installing a child restraint system.

S5.6.2 The instructions shall specify in general terms the types of vehicles, seating positions, and vehicle lap belts with which the system can or cannot be used.

S6 Test Conditions and Procedures.

S6.1 Dynamic Systems Test.

S6.1.1 Test Conditions.

S6.1.1.1 The test device is the standard seat assembly specified in S7.3. It is mounted on a dynamic test platform so that the center SORL of the seat is parallel to the direction of the test platform travel and so that movement between the base of the assembly and the platform is prevented.

The platform is instrumented with an accelerometer and data processing system having a frequency response of 60Hz channel class as specified in Society of Automotive Engineers Recommended Practice J211a, "Instrumentation for Impact Tests." The accelerometer sensitive axis is parallel to the direction of the test platform travel.

S6.1.1.2 The tests are frontal barrier impact simulations and for—

(a) Test configuration I specified in S6.1.2.1.1, are at a velocity change of 30 mph with the acceleration of the test platform wholly within the shaded area in figure 2.

(b) Test configuration II specified in S6.1.2.1.2, are at a velocity change of 20 mph with the acceleration of the test platform wholly within the shaded area in figure 3.

S6.1.1.3 Type I seat belt assemblies meeting the requirements of Standard No. 209 (S571.209) and having webbing with a width of not more than 2 inches are attached, without the use of retractors or reels of any kind, to the seat belt anchorage points (illustrated in Figure 1B) provided on the standard seat assembly.

S6.1.1.4 Performance tests under S6.1 are conducted at any ambient temperature from 66° to 78° F and at any relative humidity from 10 percent to 70 percent.

S6.1.2 Dynamic Test Procedure.

S6.1.2.1 Test Configuration.

S6.1.2.1.1 Test Configuration I. In the case of each child restraint system, install a new child restraint system at the center seat position of the standard seat assembly in accordance with the manufacturer's instructions provided in accordance with S5.6 with the system.

S6.1.2.1.2 Test Configuration II. In the case of each child restraint system, other than a child harness, which is equipped with an anchorage belt, install a new child restraint system at the center seat position of the standard seat assembly in accordance with S6.1.2.1, using only the standard seat lap belt to secure the system to the standard seat.

S6.1.2.2 Tighten all belts used to attach the child restraint system to the standard seat assembly to a tension of not less than 12 pounds and not more than 15 pounds, as measured by a load cell used as specified in S7.3 on the webbing portion of the belt.

S6.1.2.3 Place in the child restraint any dummy specified in S7 for testing systems for use by children of the heights and weights for which the system is recommended in accordance with S5.6.

S6.1.2.3.1 When placing the 3-year-old test dummy in child restraint systems other than car beds, position the test dummy according to the instructions for child positioning provided by the manufacturer with the system in

accordance with S5.6 while conforming to the following:

(a) Place the test dummy in the seated position within the system with the midsagittal plane of the test dummy head coincident with the center SORL of the standard seating assembly, holding the torso upright until it contacts the system's design seating surface.

(b) Extend the arms of the test dummy as far as possible in the upward vertical direction. Extend the legs of the dummy as far as possible in the forward horizontal direction, with the dummy feet perpendicular to the centerline of the lower legs.

(c) Using a flat square surface with an area of 4 square inches, apply a force of 40 pounds, perpendicular to the plane of the back of the standard seat assembly, first against the dummy crotch and then at the dummy thorax in the midsagittal plane of the dummy.

(d) After the steps specified in paragraph (c) of this section, rotate each dummy limb downwards in the plane parallel to its midsagittal plane until the limb contacts a surface of the child restraint system or the standard seat. Position the limbs, if necessary, so that limb placement does not inhibit torso or head movement in tests conducted under S6.

S6.1.2.3.2 When placing the 6-month-old dummy in child restraint systems other than car beds, position the test dummy according to the instructions for child positioning provided with the system by the manufacturer in accordance with S5.6 while conforming to the following:

(a) With the dummy in the supine position on a horizontal surface, and while preventing movement of the dummy torso by placing a hand on the center of the torso, rotate the dummy legs upward by lifting the feet until the legs contact the upper torso and the feet touch the head, and then slowly release the legs but do not return them to the flat surface.

(b) Place the dummy in the child restraint system so that the back of the dummy torso contacts the back support surface of the system, and tape the dummy head against the front of the seat back surface of the system by means of a single thickness of ¼-inch-wide paper masking tape placed across the center of the dummy face.

(c) Position the dummy arms vertically upwards and then rotate each arm downward toward the dummy's lower body until it contacts a surface of the child restraint system or the standard seat assembly, ensuring that no arm is restrained from movement in other

than the downward direction, by any part of the system or the belts used to anchor the system to the standard seat assembly.

S6.1.2.3.3 When placing the 6-month-old dummy or 3-year-old dummy in a car bed, place the dummy in the car bed in the supine position with its midsagittal plane perpendicular to the center SORL of the standard seat assembly and position the dummy within the car bed in accordance with instructions for child positioning provided with the car bed by its manufacturer in accordance with S5.6.

S6.1.2.4 If provided, shoulder and pelvic belts that directly restrain the dummy shall be adjusted as follows:

Tighten the belts until a 2-pound force applied (as illustrated in figure 5) to the webbing at the top of each dummy shoulder and to the pelvic webbing two inches on either side of the torso vertical centerline pulls the webbing ¼ inch from the dummy.

S6.1.2.5 Accelerate the test platform to simulate frontal impact in accordance with S6.1.1.2(a) or S6.1.1.2(b), as appropriate.

S6.1.2.6 Measure dummy excursion and determine conformance to the requirements specified in S5.1 as appropriate.

S6.2 *Buckle release test procedure.* The buckles on the belts of each child restraint system equipped with buckled belts shall be tested in accordance with S6.2.1 through S6.2.5.

S6.2.1 Install the child restraint system on a standard seat assembly and place the appropriate test dummy in the system in accordance with S6.1.2.1 through S6.1.2.4.

S6.2.2 Tie a self-adjusting sling to each ankle and wrist of the dummy in the manner illustrated in figure 4.

S6.2.3 Pull the sling horizontally in the manner illustrated in figure 4 and parallel to the center SORL of the seat assembly and apply a force of 20 pounds in the case of a system tested with a 6 month-old dummy and 45 pounds in the case of a system tested with a 3 year-old dummy.

S6.2.4 While applying the force specified in S6.2.3, operate the buckle release mechanism in the manner specified in S5.2(d) of Standard No. 209 (S571.209).

S6.2.5 Measure the force required to release the buckle.

S6.3 *Head impact protection—energy absorbing material test procedure.*

S6.3.1 Prepare test specimens of the energy absorbing material used to comply with S5.2.3 in accordance with section 14 of the American Society for

Testing and Materials (ASTM) Standard D1056-73, "Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber."

S6.3.2 Subject the prepared test specimens to the 25 percent compression-deflection test described in sections 17, 19, and 20 of that ASTM standard.

S7 *Test dummies.*

S7.1 *Six-month-old dummy.* An unclothed "Six-month-old Size Manikin" conforming to Subpart D of Part 572 of this chapter is used for testing a child restraint system that is recommended by its manufacturer in accordance with S5.6 for use by children in a weight range that includes children weighing not more than 20 pounds.

S7.2 *Three-year-old dummy.* A three-year-old dummy conforming to Subpart C of Part 572 of this chapter is used for testing a child restraint that is recommended by its manufacturer in accordance with S5.6 for use by children in a weight range that includes children weighing more than 20 pounds.

S7.2.1 Before being used in testing under this standard, the dummy is conditioned at any ambient temperature from 66° F to 78° F and at any relative humidity from 10 percent to 70 percent for at least 4 hours.

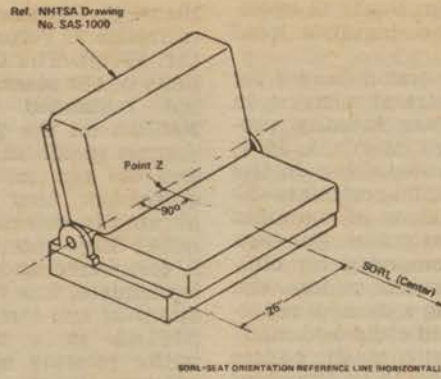
S7.2.2 When used in testing under this standard, the dummy is clothed in thermal knit waffle-weave polyester and cotton underwear, a size 4 long-sleeved shirt weighing 0.2 pounds, a size 4 pair of long pants weighing 0.2 pounds and cut off just far enough above the knee to allow the knee target to be visible, and size 7M sneakers with rubber toe caps, uppers of dacron and cotton or nylon and a total weight of 1 pound. Clothing other than the shoes is machine-washed in 160° F to 180° F water and machine-dried at 120° F to 140° F for 30 minutes.

S7.3 *Standard seat assembly.* The standard seat assembly used in testing under this standard is a simulated vehicle bench seat, with three seating positions, which is described in Drawing Package SAD-100-1000 and consists of drawings and a bill of materials.

(Secs. 103, 112, 114, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1401, 1403, 1407); delegations of authority at 49 CFR 1.50 and 501.8.)

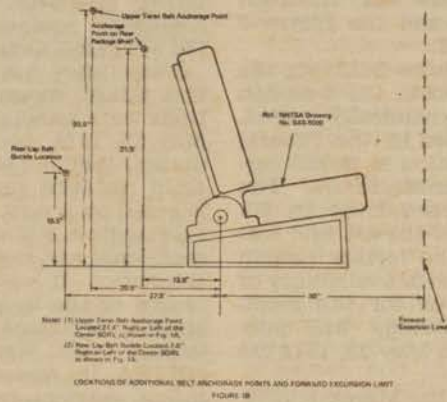
Issued on May 10, 1978.

MICHAEL M. FINKELSTEIN,
Acting Associate Administrator
for Rulemaking.



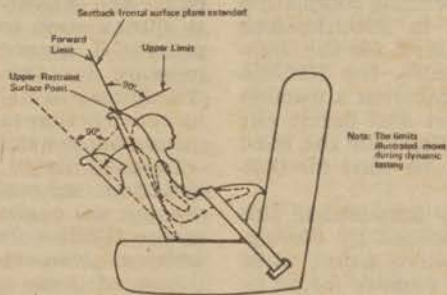
SORL LOCATION ON THE STANDARD SEAT

FIGURE 1A



LOCATIONS OF ADDITIONAL BELT ANCHORAGE POINTS AND FORWARD EXCURSION LIMIT

FIGURE 1B



REAR-FACING CHILD RESTRAINT FORWARD AND UPPER HEAD EXCURSION LIMITS

FIGURE 1C

PERMISSIBLE RANGE OF ACCELERATION FUNCTION FOR $\Delta V = 30$ MPH

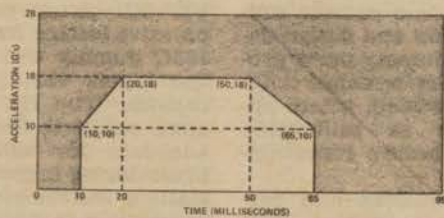


FIGURE 2

PERMISSIBLE RANGE OF ACCELERATION FUNCTION FOR $\Delta V = 20$ MPH

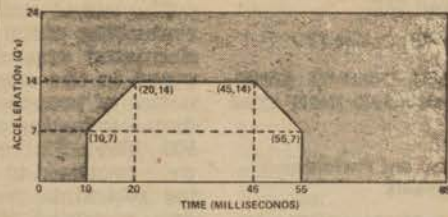
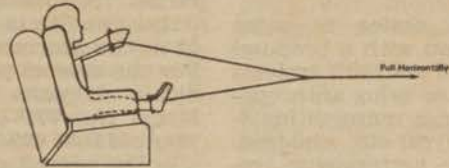
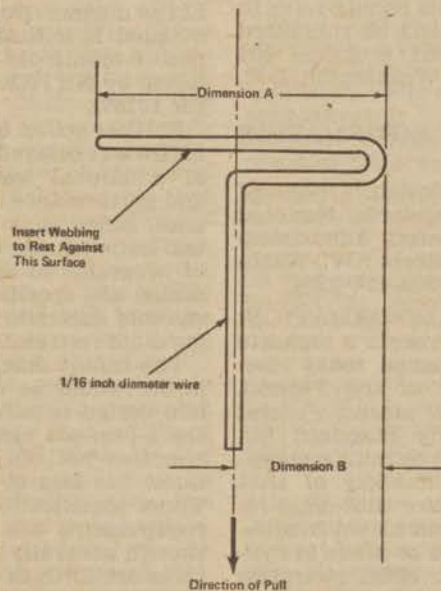


FIGURE 3



BUCKLE RELEASE TEST

FIGURE 4



Dimension A - Width of Webbing Plus 1/8 inch
Dimension B - 1/2 of Dimension A

WEBBING TENSION PULL DEVICE

FIGURE 5

[4910-59]

[49 CFR Part 572]

[Docket No. 78-09; Notice 11]

ANTHROPOMORPHIC TEST DUMMIES REPRESENTING SIX MONTH OLD AND THREE YEAR OLD CHILDREN**Proposed Specifications and Performance Requirements**

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Notice of proposed rulemaking.

SUMMARY: This notice is being issued in conjunction with a proposal to require that child restraint systems be dynamically tested using anthropomorphic test dummies representing 6-month-old and 3-year-old children. Specifications and performance requirements for those dummies are proposed in this notice.

DATES: Comments must be received on or before December 1, 1978. Proposed effective date: Date of publication of the final rule on test dummies in the FEDERAL REGISTER.

ADDRESS: Comments should refer to the docket number and be submitted to Room 5108, Nassif Building, 400 Seventh Street SW., Washington, D.C. 20590.

FOR FURTHER INFORMATION CONTACT:

Mr. Vladislav Radovich, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street NW., Washington, D.C. 20590, 202-426-2264.

SUPPLEMENTARY INFORMATION:

This proposal supplements a separate proposal being published today elsewhere in this issue of the FEDERAL REGISTER that would amend Federal Motor Vehicle Safety Standard No. 213, relating to child restraint systems, to expand the applicability of that standard and to require that child restraints be tested in simulated crashes. The measurements to be made in dynamically testing the child restraints would be made by placing child test dummies in the child restraints and subjecting the dummies and restraints to specified acceleration sled tests. Two sorts of dummies would be used in those tests. One would represent a 6 month old infant (infant dummy) and the other, a 3-year-old child (3-year-old child dummy). That proposal would require that, during the dynamic tests, the dummies be retained within the child restraints and that child restraints designed for children weighing more than 2 pounds (those restraints would typically be tested using the 3-year-old child dummy)

limit the acceleration levels at specified locations in the dummy's head and chest.

The use of similar test dummies for evaluating child restraint systems in simulated crashes was initially proposed in the agency's March 1, 1974, notice of proposed rulemaking on the dynamic testing of child restraints (39 FR 7959). Three classes of dummies were proposed in that notice. For testing restraints recommended for children weighing 17 pounds or less, the notice proposed using a dummy representing a 6 month old child and made of sail cloth, filled with plastic pellets and lead shot. For the 17 to 43 pound range, the agency proposed use of either the Sierra 3 year old P/N 492-03 or the Alderson Model No. VIP-3C. For the over 43 pound range, the candidate dummies were the Alderson Model No. VIP-6C and the Sierra 6 year old P/N 492-106.

In the several months following the March 1, 1974, proposal, the 6 month old dummy was dynamically tested, modified, and retested by the Federal Aviation Administration in infant carriers of three manufacturers. The modified dummy represented an advance in the state-of-the-art and was vastly superior to the former version of the dummy. Notice of availability of detailed specifications for the modified 6-month-old dummy was published by NHTSA on May 22, 1974 (39 FR 18287).

Further action on the March 1, 1974, notice was delayed pending completion of additional work in specifications and performance criteria for the dummies. Since that notice, the NHTSA has initiated and completed a number of programs to select and define the design and specifications for the most suitable dummies to be used for testing child restraints.

The infant dummy proposed in this notice would be specified by descriptive design specifications alone, while the 3-year-old child dummy would be specified not only by such specifications, but also in performance terms. Those specifications and performance requirements are similar in type, although generally not in magnitude, to those set forth in Part 572, Subpart B, for 50th percentile male dummies. Mechanical drawings would provide uniformity of construction and design details in dummies or dummy parts produced by suppliers. Performance criteria would also be provided, where appropriate, to serve as calibration checks and help to assure repeatability of performance.

The use of specifications and performance criteria is consistent with the statements by the U.S. Court of Appeals for the Sixth Circuit regarding the 50th percentile male dummy in its December 5, 1972, decision on petitions for review of Safety Standard

No. 208, Occupant Crash Protection (*Chrysler v. Volpe*, 472 F. 2d 659 (6th Cir. 1972)). The Court upheld the validity of the standard in most respects, but remanded the proceeding to NHTSA on the ground that the test dummy specifications were inadequate and did not meet the statutory requirement that the standard be phrased in objective terms. The Court noted three specific respects in which it considered the specifications to be inadequate. The Court also noted with approval the statement made by the NHTSA in a previous rulemaking notice relating to Standard No. 208: "(S)ince the dummy is merely a test instrument and not an item of regulated equipment, it is not necessary to describe it in performance terms; its design could be legally 'frozen' by detailed, blue-print-type drawings and complete equipment specifications" (36 FR 19255; October 1, 1971).

The agency has tentatively selected the infant dummy whose specifications were announced in the agency's May 22, 1974, notice to be the infant dummy used for testing under the new child restraint proposal. The dummy is based on a very simple design which represents a 6 month old infant in dimensional and mass distribution characteristics. It will provide a reliable record of the dynamics of a child restraint occupant during simulated impact tests. When it was used by NHTSA in assessing the ability of infant carriers to retain their occupants and maintain structural integrity during such tests, it was found to provide a consistent and repeatable measure for this purpose. However, the dummy is not suitable because of its construction to be instrumented for measuring inertial forces.

Detailed design drawings and a construction manual for the infant dummy are available for examination in the NHTSA Docket Section at the address given above for comments. Copies of these materials may be obtained from the Keuffel and Esser Co., 1512 North Danville Street, Arlington, Va. 22201.

The tentatively selected 3-year-old child dummy is the NHTSA test dummy SA 103C. It is a slightly modified version of the Alderson Model VIP-3C. After comprehensive comparative testing by the agency, the SA 103C dummy was selected instead of the Sierra 492-03 for the following reasons: The SA 103C dummy has more complete design details; is more adequate for withstanding the test loads during impact testing and for installing instrumentation; has a more accurate anthropometry and mass distribution and has more childlike kinematic responses during impacts; and has more consistent head and chest acceleration measurements during impacts.

The specifications for the 3-year-old child dummy would consist of the following three elements: a drawing package containing all of the technical details of the dummy parts and dummy assembly; a set of master patterns for all molded and cast parts of the dummy which enable rapid reproduction of them; and a maintenance manual containing instructions for assembly, disassembly, use, adjustments, and maintenance of dummies. These elements would ensure that the dummies would vary little in their construction. Performance criteria would also be specified to serve as calibration checks and further assure the uniformity of dummy construction and the repeatability of performance in dynamic testing.

The dummies would be equipped with photographic targets attached to the head and knees. They would also be instrumented with accelerometers for measurement of accelerations in the head and chest during impacts. The rule would specify the manner and location of installation of accelerometers so that there would be no variability in their measurements resulting from different locations and mountings of the accelerometers. As a further safeguard, the calibration tests would ensure the absence of damage from previous use.

Data obtained from impact testing of several child restraints with 3-year-old child dummies in them revealed that the dummies' performance has adequate levels of repeatability. This establishes their reliability as a tool for measuring child restraint performance. The use of these dummies, therefore, would provide an objective measure of the effectiveness of child restraints in car crashes.

The agency emphasizes that the calibration for the 3-year-old dummy is still tentative and anticipates that the final rule may reduce the response ranges further. Testing regarding the appropriate calibrations for that dummy will continue after issuance of this notice. The results of those tests will be placed in the public docket as soon as possible after completion of the tests.

Drawings and specifications for the 3-year-old child dummy are available for examination in the NHTSA Docket Section. Copies of those materials and an operation and maintenance manual can be obtained from the Keuffel and Esser Co. In addition, patterns for all cast and molded parts are available on a loan basis from the NHTSA Office of Vehicle Safety Standards.

The cost of the infant dummy is estimated to be less than \$500 and of the 3-year-old child dummy, about \$3,600. The materials used in the dummies are commercially obtainable, and are similar to those used in the 50th percentile male dummy described in Subpart B of Part 572.

From the agency's point of view anyone is free to produce the dummies used for testing and in fact the availability of relevant mechanical drawings through the NHTSA designated supply sources is intended to make that possible. The negotiation or adjudication of any patent or other private claims that may arise should be dealt with by the commercial and legal processes of the private sector.

Interested persons are invited to submit comments on the proposal. It is requested but not required that 10 copies be submitted.

All comments must be limited not to exceed 15 pages in length. Necessary attachments may be appended to these submissions without regard to the 15 page limit. This limitation is intended to encourage commenters to detail their primary arguments in a succinct and concise fashion.

If a commenter wishes to submit certain information under a claim of confidentiality, three copies of the complete submission, including purportedly confidential information, should be submitted to the Chief Counsel, NHTSA, at the address given above, and seven copies from which the purportedly confidential information has been deleted should be submitted to the Docket Section. Any claim of confidentiality must be supported by a statement demonstrating that the information falls within 5 U.S.C. section 552(b)(4), and that disclosure of the information is likely to result in substantial competitive damage; specifying the period during which the information must be withheld to avoid that damage; and showing that earlier disclosure would result in that damage. In addition, the commentator or, in the case of a corporation, a responsible corporate official authorized to speak for the corporation must certify in writing that each item for which confidential treatment is requested is in fact confidential within the meaning of section 552(b)(4) and that a diligent search has been conducted by the commentator or its employees to assure that none of the specified items has previously been released to the public.

All comments received before the close of business on the comment closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. However, the rulemaking action may proceed at any time after that date, and comments received after the closing date and too late for consideration in regard to the action will be treated as suggestions for future rulemaking. The NHTSA will continue to file relevant material as it becomes available in the docket after the closing date, and it is recommend-

ed that interested persons continue to examine the docket for new material.

The agency has reviewed the impacts of this regulation and determined that it is not a significant regulation within the meaning of Executive Order 12044.

The principal authors of this notice are Mr. Vladislav Radovich, Office of Vehicle Safety Standards, and Mr. Stephen Wood, Office of the Chief Counsel.

In consideration of the foregoing, it is proposed that 49 CFR Part 572, Anthropomorphic Test Dummies, be amended by adding a new Subpart C—Three Year Old Child and new Subpart D—Six Month Old Infant immediately after Subpart B as follows:

Subpart C—Three Year Old Child

Sec.	
572.15	General description.
572.16	Head.
572.17	Neck.
572.18	Thorax.
572.19	Lumbar, spine, abdomen and pelvis.
572.20	Limbs.
572.21	Test conditions and instrumentation.

Subpart C—Three Year Old Child

§ 572.15 General description.

(a)(1) The dummy consists of the component assemblies specified in drawing SA 103C 001, which are described in their entirety by means of approximately 114 drawings and specifications grouped by component assemblies under the following headings:

SA 103C 010	Head Assembly
SA 103C 020	Neck Assembly
SA 103C 030	Torso Assembly
SA 103C 041	Upper Arm Assembly Left
SA 103C 042	Upper Arm Assembly Right
SA 103C 051	Forearm Hand Assembly Left
SA 103C 052	Forearm Hand Assembly Right
SA 103C 061	Upper Leg Assembly Left
SA 103C 062	Upper Leg Assembly Right
SA 103C 071	Lower Leg Assembly Left
SA 103C 072	Lower Leg Assembly Right
SA 103C 081	Foot Assembly Left
SA 103C 082	Foot Assembly Right

The drawings and specifications are incorporated in this part by reference to the thirteen headings and are available for examination in Docket 78-09, Room 5108, 400 Seventh Street SW., Washington, D.C. 20590. Copies may be obtained from Keuffel & Esser Co., 1521 North Danville Street, Arlington, Va. 22201.

(2) The patterns of all cast and molded parts for reproduction of the molds needed in manufacturing of the dummies are incorporated in this part by reference. A set of the patterns can be obtained on a loan basis by manufacturers of the test dummies, or others if need is shown, from the Office of Vehicle Safety Standards, NHTSA, 400 Seventh Street SW., Washington, D.C. 20590.

(3) An Operation and Maintenance Manual with instructions for the use and maintenance of the test dummies dated May 28, 1976, Contract No. DOT-HS-6-01294 is incorporated in the part by reference. Copies of the manual can be obtained from the Keuffel & Esser Co. All provisions of this manual are valid unless modified by this regulations. This document is available for examination in Docket 78-09.

(4) The drawings, specifications and the manual are subject to changes, but any change will be accomplished by appropriate administrative procedures and announced by publication in the FEDERAL REGISTER and be available for examination and copying as indicated in this paragraph.

(5) The drawings, specifications, patterns, and manual are on file in the reference library of the Federal Register, National Archives and Records Service, General Services Administration, Washington, D.C.

(b) Adjacent segments are joined in a manner such that throughout the range of motion and also under simulated crash-impact conditions, there is no contact between metallic elements except for contacts that exist under static conditions.

(c) The structural properties of the dummy are such that the dummy conforms to this part in every respect both before and after being used in tests specified by Standard No. 213 (§ 571.213).

§ 572.16 Head.

(a) The head consists of the assembly shown in drawing SA 103C 001 by number SA 103C 010, and conforms to each of the drawings listed under this number on drawing SA 103C 002, sheet 8.

(b) When the head is impacted in accordance with paragraph (c) of this section by a test probe conforming to § 572.21(a) at 7 fps., the peak resultant accelerations measured at the location of the accelerometers mounted in the headform in accordance with § 571.21(b) shall be not less than 95g, and not more than 122g. The recorded acceleration-time curve for this test shall be unimodal and shall lie at, or above the 50g level for an interval not less than 2.0 and not more than 3.0 milliseconds. The lateral acceleration vector shall not exceed 5g.

(c) Test Procedure:

(1) Seat the dummy on a seating surface having a back support as specified in § 572.21(h) and orient the dummy in accordance with § 572.21(h) and adjust the joints of the limbs at any setting between 1g and 2g, which just supports the limbs' weight when the limbs are extended horizontally forward.

(2) Adjust the test probe so that its longitudinal centerline is at the forehead midsagittal plane 2.9 ± 0.1 inches

below the top of the head and coincides within 2 degrees with the line made by the intersection of horizontal and midsagittal planes passing through this point.

(3) Adjust the dummy so that the surface area on the forehead immediately adjacent to the projected longitudinal centerline of the test probe is vertical.

(4) Impact the head with the test probe so that at the moment of impact the probe's longitudinal centerline falls within 2 degrees of a horizontal line in the dummy's midsagittal plane.

(5) Guide the probe during impact so that it moves with no significant lateral, vertical, or rotational movement.

(6) Allow a time period of at least 20 minutes between successive tests of the head.

§ 572.17 Neck.

(a) The neck consists of the assembly shown in drawing SA 103C 001 as number SA 103C 020, and conforms to each of the drawings listed under this number on drawing SA 103C 002, sheet 9.

(b) When the head-neck assembly is tested in accordance with paragraph (c) of this section, the head shall rotate in reference to the pendulum's longitudinal centerline a total of 84 degrees \pm 8 degrees about its center of gravity, rotating to the extent specified in the following table at each indicated point in time, measured from impact, with the chordal displacement measured at its center of gravity. The chordal displacement at time T is defined as the straight line distance between (1) the position relative to the pendulum arm of the head center of gravity at time zero, and (2) the position relative to the pendulum arm of the head center of gravity at time T as illustrated by figure 3. The peak resultant acceleration recorded at the location of the accelerometers mounted in the headform in accordance with § 572.21(b) shall not exceed 30g. The pendulum shall not reverse direction until the head's center of gravity returns to the original zero time position relative to the pendulum arm.

Rotation (degrees)	Plus or minus	Time	Chordal (inches \pm 0.8)
0.....	0	2 \pm .08t	0
30.....	21	2 \pm .08t	2.2
60.....	36	2 \pm .08t	4.3
Maximum ..	62	2 \pm .08t	5.8
60.....	91	2 \pm .08t	4.3
30.....	108	2 \pm .08t	2.2
0.....	123	2 \pm .08t	0

(c) Test Procedure:

(1) Mount the head and neck on a rigid pendulum as specified in Figure 4, so that the head's midsagittal plane is vertical and coincides with the plane

of motion of the pendulum's longitudinal centerline. Mount the neck directly to the pendulum as shown in Figure 15.

(2) Release the pendulum and allow it to fall freely from a height such that the velocity at impact is 17.00 ± 1.0 feet per second (fps), measured at the center of the accelerometer specified in figure 4.

(3) Decelerate the pendulum to a stop with an acceleration-time pulse described as follows:

(i) Establish 5g and 20g levels on the a-t curve.

(ii) Establish t_1 at the point where the a-t curve first crosses the 5g level, t_2 at the point where the rising a-t curve first crosses the 20g level, t_3 at the point where the decaying a-t curve last crosses the 20g level, and t_4 at the point where the decaying a-t curve first crosses the 5g level.

(iii) $t_2 - t_1$, shall be not more than 3 milliseconds.

(iv) $t_3 - t_2$, shall be not less than 18 and not more than 21 milliseconds.

(v) $t_4 - t_3$, shall be not more than 5 milliseconds.

(vi) The average deceleration between t_2 and t_3 shall be not less than 20g and not more than 36g.

(4) Allow the neck to flex without contact of the head or neck with any object other than the pendulum arm.

(5) Allow a time period of at least 1 hour between successive tests of the head and neck.

§ 572.18 Thorax.

(a) The thorax consists of the part of the torso shown in assembly drawing SA 103C 001 by number SA 103C 030 and conforms to each of the applicable drawings listed under this number on drawing SA 103C 002, sheets 10 and 11.

(b) The thorax rib cage is constructed so as to permit the midpoint of the sternum to be depressed 1.5 inches without contact between the rib cage and other parts of the dummy.

(c) When impacted by a test probe conforming to § 572.21(a) at 10 fps. in accordance with paragraph (d) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the chest cavity in accordance with § 572.21(c) shall be not less than 46g and not more than 78g. The acceleration-time curve for the test shall be unimodal and shall lie at or above the 30g level for an interval not less than 2.0 milliseconds and not more than 4.0 milliseconds. The lateral acceleration vector shall not exceed 5g.

(d) Test Procedure:

(1) With the dummy seated without back support on a surface as specified in § 572.21(c)(h) and oriented as specified in § 572.21(h), adjust the dummy arms and legs until they are extended horizontally forward parallel to the

midsagittal plane, the joints of the limbs are adjusted at any setting between 1g and 2g, which just supports the limbs' weight when the limbs are extended horizontally forward.

(2) Place the longitudinal centerline of the test probe at the chest midsagittal plane so that it is 11.25 ± 0.1 inches below the tope of the head at impact.

(3) Align the test probe so that at impact its longitudinal centerline coincides within 2 degrees with the line formed by intersection of the horizontal and midsagittal planes passing through the designated impact point.

(4) Adjust the dummy so that the surface area on the thorax immediately adjacent to the projected longitudinal centerline of the test probe is vertical.

(5) Impact the thorax with the test probe so that at the moment of impact the probe's longitudinal centerline falls with 2 degrees of a horizontal line in the dummy midsagittal plane.

(6) Guide the probe during impact so that it moves with no significant lateral, vertical or rotational movement.

(7) Allow a time period of at least 20 minutes between successive tests of the chest.

§572.19 Lumbar spine, abdomen and pelvis.

(a) The lumbar spine, abdomen, and pelvis consist of the part of the torso assembly shown by number SA 103C 030 on drawing SA 103C 001 and conform to each of the applicable drawings listed under this number on drawing SA 103C 002, sheets 10 and 11.

(b) When subjected to continuously applied force in accordance with paragraph (c) of this section, the lumbar spine assembly shall flex by an amount that permits the rigid thoracic spine to rotate from its initial position in accordance with Figure 18 of this subpart by 40 degrees at a force level of not less than 43 pounds and not more than 83 pounds, and straighten upon removal of the force to within 5 degrees of its initial position.

(c) *Test Procedure:* (1) The dummy with lower legs removed is positioned in an upright seated position on a seat as indicated in Figure 18, ensuring that all dummy component surfaces are clean, dry and untreated unless otherwise specified.

(2) Attach the pelvis to the seating surface by a bolt C/328, modified as shown in Figure 18, and the upper legs at the knee axial rotation joints by the attachments shown in Figure 18. Tighten the mountings so that the pelvis-lumbar joining surface is horizontal and adjust the femur friction plungers at each hip socket joint to 50 inch pounds torque.

(3) Flex the thorax forward 50 degrees and then rearward as necessary to return to its initial position in ac-

cordance with Figure 18 unsupported by external means.

(4) Apply a forward force perpendicular to the thorax instrument cavity rear face in the midsagittal plane 11.2 inches vertically above the dummy's seating surface. Apply the force at any torso deflection rate between 0.5 and 1.5 degrees per second up to 40 degrees of flexion but no further; continue to apply for 10 seconds the force necessary to maintain 40 degrees of flexion, and record the highest applied force at that time. Release all force as rapidly as possible and measure the return angle 3 minutes after the release.

§572.20 Limbs.

The limbs consist of the assemblies shown on drawing SA 103C 001 as Nos. SA 103C 041, SA 103C 042, SA 103C 051, SA 103C 052, SA 103C 061, SA 103C 062, SA 103C 071, SA 103C 072, SA 103C 081, SA 103C 082, and conform to each of the applicable drawings listed under their respective numbers of the drawing SA 103C 002, sheets 12 through 21.

§572.21 Test conditions and instrumentation.

(a) The test probe used for head and thoracic impact tests is a cylinder 3 inches in diameter, 13.8 inches long and weights 10 lbs., 6 ozs. Its impacting end has a flat right face that is rigid and that has an edge radius of 0.5 inches.

(b) Accelerometers are mounted in the head on the mounting block (A/310) located on the horizontal transverse bulkhead shown in the drawings subreferenced under assembly SA 103C 010 so that their sensitive axes intersect orthogonally, except in the case of tri-axial accelerometers, at the axial intersection point located at the intersection of a line connecting the longitudinal centerlines of the transfer pins in the sides of the dummy head with the midsagittal plane of the dummy head. In the case of a tri-axial accelerometer, the intersection of two of the sensitive axes of the accelerometer can be located up to 1 inch from the axial intersection point and the third sensitive axis can be located up to 0.3 inches from the axial intersection point. One accelerometer is aligned with its sensitive axis parallel to the vertical bulkhead and midsagittal plane, and with its seismic mass center at the intersection of the midsagittal and horizontal planes passing through the axial intersection point at any distance up to 0.3 inches dorsal to the axial intersection point. Another accelerometer is aligned with its sensitive axis in the horizontal plane and perpendicular to the midsagittal plane, and with its seismic mass center at any distance up to 0.2 inches seismic mass center at any distance up to

0.2 inches inferior to, 0.4 inches to the right of, and 1 inch dorsal to the axial intersection point (right side of dummy is the same as that of child). A third accelerometer is aligned with its sensitive axis parallel to the midsagittal and horizontal planes, and with its seismic mass center at any distance up to 0.2 inches inferior to, 0.5 inches dorsal to, and 0.4 inches to the right of the axial intersection point. In the case of a tri-axial accelerometer, its axes are aligned in the same way that the axes of three separate accelerometers are aligned.

(c) Accelerometers are mounted in the thorax on the mounting plate attached to the vertical transverse bulkhead shown in the drawings subreferenced under assembly No. SA 103C 030 in drawing SA 103C 001 so that their sensitive axes intersect orthogonally at the axial intersection point located in the midsagittal plane 3 inches above the top surface of the lumbar spine and 0.3 inches dorsal to the accelerometer mounting plate surface. In the case of a tri-axial accelerometer, one sensitive axis of the accelerometer can be at any distance up to 0.9 inches from the axial intersection point. One accelerometer is aligned with its sensitive axis parallel to the vertical bulkhead and mid-sagittal planes, and with its seismic mass center at the intersection of transverse vertical and horizontal planes passing through the axial intersection point and at any distance up to 0.4 inches to the left of the axial intersection point. Another accelerometer is aligned with its sensitive axis in the vertical transverse plane and perpendicular to the midsagittal plane and with its seismic mass center at the intersection of the midsagittal and vertical transverse planes passing through the axial intersection point and at any distance up to 0.5 inches superior to the axial intersection point. A third accelerometer is aligned with its sensitive axis parallel to the midsagittal and horizontal planes and with its seismic mass center at any distance up to 0.5 inches superior, dorsal and to the right of the axial intersection point. In the case of a tri-axial accelerometer, its axes are aligned in the same way that the axes of three separate accelerometers are aligned.

(d) The outputs of accelerometers installed in the dummy, and of test apparatus specified by this part, are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211a, December 1971, with channel classes as follows:

- (1) Head acceleration—Class 1000.
- (2) Pendulum acceleration—Class 60.
- (3) Thorax acceleration—Class 180.

(e) The mountings for accelerometers have no resonance frequency within a range of 3 times the frequency range of the applicable channel class.

(f) Limb joints are set at the force between 1-2g, which just supports the limbs' weight when the limbs are extended horizontally forward. The force required to move a limb segment does not exceed 2g throughout the range of limb motion.

(g) Performance tests are conducted at any temperature from 66° F to 78° F and at any relative humidity from 10 percent to 70 percent after exposure of the dummy to these conditions for a period of not less than 4 hours.

(h) For the performance tests specified in §§ 572.16, 572.18, and 572.19, the dummy is positioned in accordance with Figures 16, 17, and 18 as follows:

(1) The dummy is placed on a flat, rigid, clean, dry, horizontal surface of teflon sheeting with a smoothness of 10 microinches and whose length and width dimensions are not less than 16 inches, so that the dummy's midsagittal plane is vertical and centered on the test surface. For head tests, the seat has a vertical back support whose top is 12.4 ± 0.2 inches above the seating surface. The rear surfaces of the dummy's shoulders and buttocks are touching the back support as shown in Figure 16. For thorax and lumbar spine tests, the seating surface is without the back support as shown in Figures 17 and 18, respectively.

(2) The shoulder yokes are adjusted so that they are at the midpoint of

their anterior-posterior travel with their upper surfaces horizontal.

(3) The dummy is adjusted for head impact and lumbar flexion tests so that the rear surfaces of the shoulders and buttocks are tangent to a transverse vertical plane.

(4) The arms and legs are positioned so that their centerlines are in planes parallel to the midsagittal plane.

(i) The dummy's dimensions are specified in drawings No. SA 103C 002, sheets 22 through 26.

(j) Performance tests of the same component, segment, assembly or fully assembled dummy are separated in time by a period of not less than 20 minutes unless otherwise specified.

(k) Surfaces of the dummy components are not painted except as specified in this part or in drawings subtended by this part.

Subpart D—Six Month Old Infant

Sec.

572.25 General description.

Subpart D—Six Month Old Infant

§ 572.25 General Description.

(a) The infant dummy is specified in its entirety by means of 5 drawings (No. SA 100I 001) and a construction manual which describes in detail the materials and the procedures involved in the manufacturing of this dummy.

The drawings and the manual are incorporated in this part by reference and are available for examination in Docket 78-09, Room 5108, 400 Seventh Street SW., Washington, D.C. Copies may be obtained from Keuffel & Esser Co., 1512 North Danville Street, Arlington, Va. 22201. The drawings and the manual are subject to changes, but any change will be accomplished by appropriate administrative procedures and announced by publication in the FEDERAL REGISTER and be available for examination and copying as indicated in this paragraph. The drawings and manual are on file in the reference library of the FEDERAL REGISTER, National Archives and Records Services, General Services Administration, Washington, D.C.

(b) The structural properties and dimensions of the dummy are such that the dummy conforms to this part in every respect, both before and after being used in tests specified by Standard No. 213 (571.213).

(Sec. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegations of authority at 49 CFR 1.50 and 501.8.)

Issued on May 10, 1978.

MICHAEL M. FINKELSTEIN,
Acting Associate Administrator
for Rulemaking.

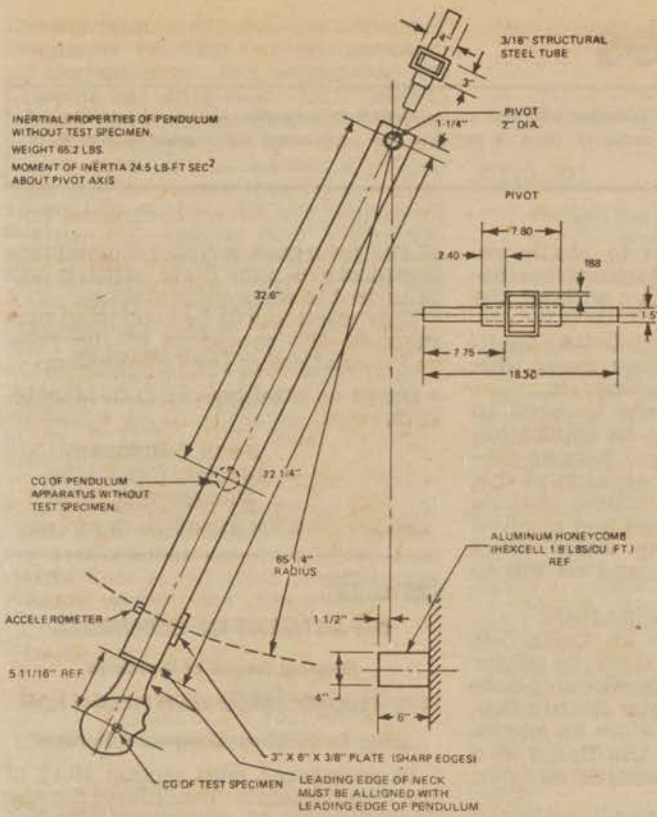


FIGURE NO. 15
NECK COMPONENT TEST

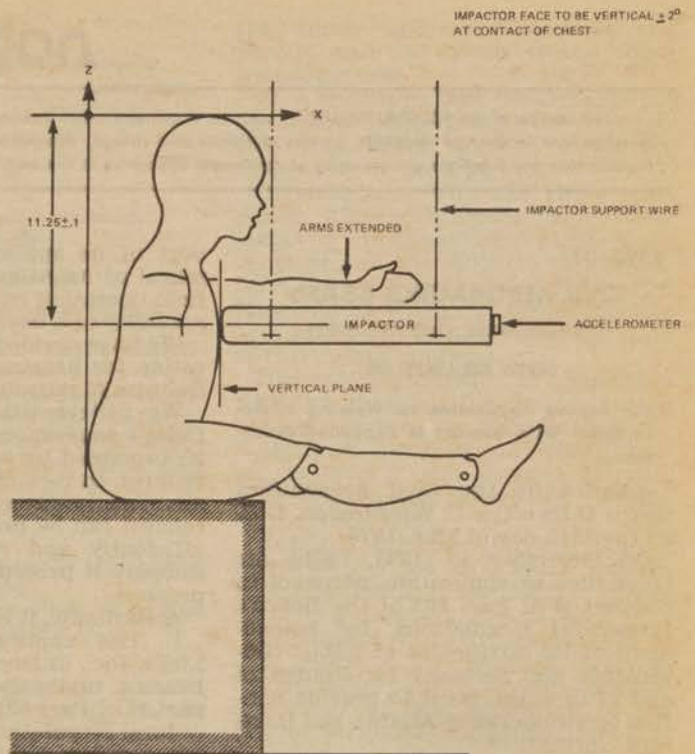


FIGURE NO. 17
CHEST IMPACT TEST

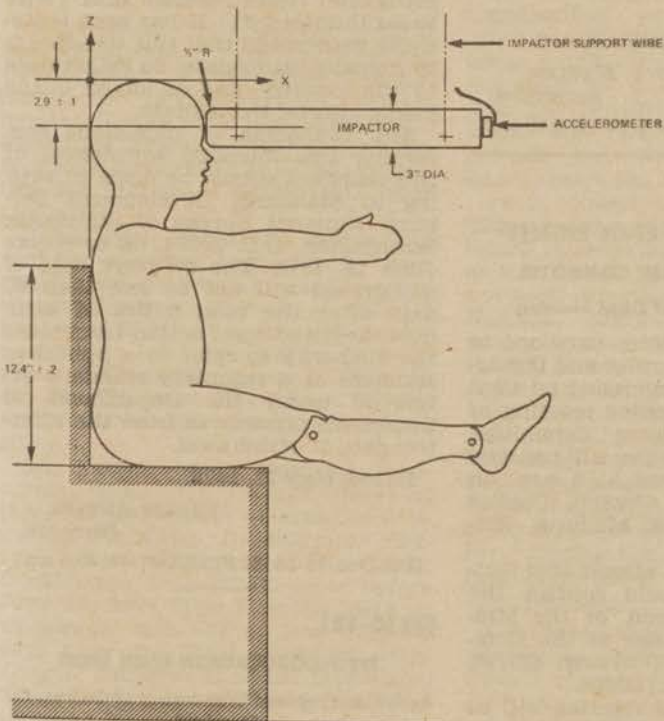


FIGURE NO. 16
HEAD IMPACT TEST

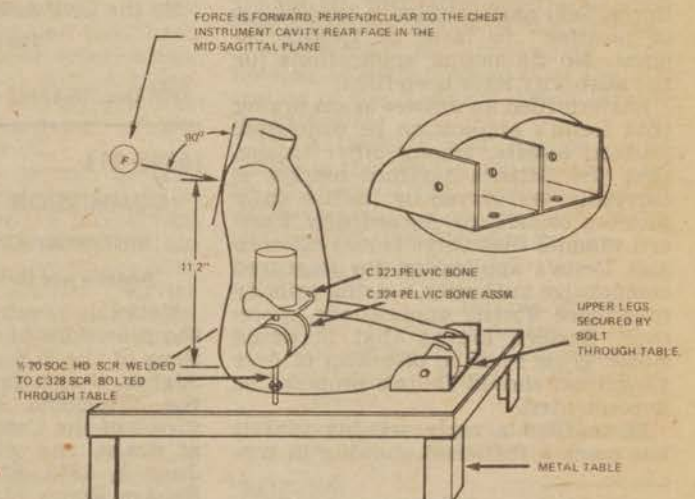


FIGURE NO. 18
LUMBAR SPINE FLEXION TEST

[FR Doc. 78-13158 Filed 5-10-78; 4:55 pm]

notices

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

[6320-01]

CIVIL AERONAUTICS BOARD

[Docket 31821; Order 78-5-57]

DELTA AIR LINES, INC.

Order Setting Application for Hearing in Accordance With Subpart N Expedited Procedures

Adopted by the Civil Aeronautics Board at its office in Washington, D.C. on the 11th day of May, 1978.

On December 13, 1977, Delta Air Lines filed an application, pursuant to Subpart N of Part 302 of the Board's Procedural Regulations, for amendment of its certificates of public convenience and necessity for Routes 24 and 27 to authorize it to provide non-stop service between Atlanta and Hartford/Springfield.¹

By order 78-2-80, February 15, 1978, the Board denied Eastern Air Lines' request that Delta's application be dismissed, and set the application for further proceedings under Rules 1406-1410 of Subpart N.

Answers in support of Delta's application were filed by the Atlanta parties² and the Hartford parties.³ The Springfield parties⁴ filed a "statement of position" in favor of Delta's request. No competing applications for the authority have been filed.

Eastern filed an answer again urging that Delta's application be dismissed. Eastern asserts, among other things, that the Atlanta-Hartford market is currently well-served by its five daily nonstop roundtrips. Accordingly, Eastern submits that there is no reason to give Delta's application for improved competitive authority hearing priority over more worthy applications, moreover, Eastern argues that it would suffer gross revenue diversion of over \$3 million should Delta's proposal be implemented.

Delta filed a reply arguing that it has made a sufficient showing in sup-

port of its application to justify removal of its Atlanta-Hartford/Springfield operating restriction without the necessity of a hearing.

We have decided to set Delta's application for hearing in accordance with Subpart N expedited procedures.

We believe that there is merit to Delta's suggestion that its application be processed by non-oral hearing procedures. In view of our capacity at this moment, however, we believe that its request can be processed and resolved efficiently and rapidly under usual Subpart N procedures, and we will so proceed.

Accordingly, it is ordered that:

1. The application of Delta Air Lines, Inc., in Docket 31821, be set for hearing, under the procedures of Subpart N of Part 302 of the Board's Procedural Regulations, before an administrative law judge of the Board at a time and place to be designated later; and

2. This order shall be served upon all persons listed in the service list attached to the application of Delta Air Lines, Inc., in Docket 31821.

This order shall be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board.

PHYLLIS T. KAYLOR,⁵
Secretary.

[FR Doc. 78-13546 Filed 5-17-78; 8:45 am]

[6335-01]

COMMISSION ON CIVIL RIGHTS

WISCONSIN ADVISORY COMMITTEE

Agenda and Notice of Open Meeting

Notice is hereby given, pursuant to the provisions of the rules and regulations of the U.S. Commission on Civil Rights, that a factfinding meeting of the Wisconsin Advisory Committee (SAC) of the Commission will convene at 9 a.m. and will end at 5 p.m. on June 1, 1978. State Capitol, Capitol Square Room 321 NE, Madison, Wis. 53702.

Persons wishing to attend this factfinding meeting should contact the Committee Chairperson, or the Midwestern Regional Office of the Commission, 230 South Dearborn Street, 32d Floor, Chicago, Ill. 60604.

The purpose of this meeting will be to discuss Redlining Issues; members

⁵All Members concurred.

of the insurance industry, community organizations, and State officials will be invited to make presentation.

This meeting will be conducted pursuant to the provisions of the rules and regulations of the Commission.

Dated at Washington, D.C. May 16, 1978.

JOHN I. BINKLEY,
Advisory Committee
Management Officer.

[FR Doc. 78-13688 Filed 5-17-78; 9:07 am]

[3510-13]

DEPARTMENT OF COMMERCE

National Bureau of Standards

TFE-FLUOROCARBON RESIN FLEXIBLE HOSE

Intent To Withdraw Commercial Standard

In accordance with section 10.12 of the Department's "Procedures for the Development of Voluntary Product Standards" (15 CFR Part 10), notice is hereby given of the intent to withdraw Commercial Standard CS 247-62, "TFE-Fluorocarbon (Polytetrafluoroethylene) Resin Flexible Hose (Wire Braid Reinforced)." It has been tentatively determined that this standard is technically inadequate, no longer used by the industry, and no longer in the public interest to maintain.

Any comments or objections concerning this intended withdrawal of this standard should be made in writing to Standards Development Services, National Bureau of Standards, Washington, D.C. 20234, on or before June 19, 1978. The effective date of withdrawal will not be less than 60 days after the final notice of withdrawal. Withdrawal action terminates the authority to refer to a published standard as a voluntary standard developed under the Department of Commerce procedures from the effective date of withdrawal.

Dated: May 12, 1978.

ERNEST AMBLER,
Director.

[FR Doc. 78-13484 Filed 5-17-78; 8:45 am]

[3510-13]

TFE-FLUOROCARBON RESIN SHEET

Action on Proposed Withdrawal of Commercial Standard

In accordance with section 10.12 of the Department's "Procedures for the

¹Delta is currently able to provide one-stop, single-plane service in the Atlanta-Hartford/Springfield market through combination of Routes 24 and 27, via the common junctions points of Philadelphia, Baltimore, Washington or New York.

²The City of Atlanta and the Atlanta Chamber of Commerce.

³The City of Hartford, the Hartford Chamber of Commerce and the Connecticut Department of Transportation.

⁴The City of Springfield and the Greater Springfield Chamber of Commerce.